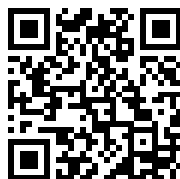

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WATER TREATY WITH MEXICO

HEARINGS

BEFORE THE

COMMITTEE ON FOREIGN RELATIONS

UNITED STATES SENATE

SEVENTY-NINTH CONGRESS

FIRST SESSION

ON

**TREATY WITH MEXICO RELATING TO THE
UTILIZATION OF THE WATERS
OF CERTAIN RIVERS**

JANUARY 22, 23, 24, 25, AND 26, 1945

Part 1

Printed for the use of the Committee on Foreign Relations



**UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1945**

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III

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WATER TREATY WITH MEXICO

MONDAY, JANUARY 22, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to call, in the caucus room, Senate Office Building, at 10:30 a. m., Senator Tom Connally (chairman), presiding.

Present: Senators Connally (chairman); George, Murray, Pepper, Barkley, Lucas, Hill, Tunnell, Johnson of California, Capper, La Follette, Vendenberg, White, Shipstead, Wiley, Bridges, and Austin.

Also present: Senators Downey, Hayden, McCarran, McFarland, Millikin, and O'Mahoney.

(The committee met to consider the treaty with Mexico relating to the utilization of the waters of certain rivers, Executive A, 77th Cong., 2d sess., which is as follows:)

[Executive A, Senate, 78th Cong., 2d sess.]

MESSAGE FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING A TREATY BETWEEN THE UNITED STATES OF AMERICA AND THE UNITED MEXICAN STATES, SIGNED AT WASHINGTON ON FEBRUARY 3, 1944, RELATING TO THE UTILIZATION OF THE WATERS OF THE COLORADO AND TIJUANA RIVERS AND OF THE RIO GRANDE FROM FORT QUITMAN, TEX., TO THE GULF OF MEXICO

THE WHITE HOUSE,
February 15, 1944.

To the Senate of the United States:

With a view to receiving the advice and consent of the Senate to ratification I transmit herewith a treaty between the United States of America and the United Mexican States, signed at Washington on February 3, 1944, relating to the utilization of the waters of the Colorado and Tijuana Rivers and of the Rio Grande from Fort Quitman, Tex., to the Gulf of Mexico.

I also transmit for the information of the Senate a report on the treaty made to me by the Secretary of State.

FRANKLIN D. ROOSEVELT.

(Enclosure: (1) Report of the Secretary of State; (2) treaty between the United States and Mexico, February 3, 1944.)

DEPARTMENT OF STATE,
Washington February 9, 1944.

The PRESIDENT.

The White House:

The undersigned, the Secretary of State, has the honor to lay before the President, with a view to its transmission to the Senate to receive the advice and consent of that body to ratification, if his judgment approve thereof, a treaty between the United States of America and the United Mexican States, signed at Washington on February 3, 1944, relating to the utilization of the waters of the Colorado and Tijuana Rivers, and of the Rio Grande (Rio Bravo) from Fort Quitman, Tex., to the Gulf of Mexico.

The treaty consists of a preamble and 7 parts, and contains 28 articles.

Part I, with three articles, contains preliminary provisions. Article I defines certain important terms used in the treaty. Article 2 prescribes the general powers and functions of the International Boundary and Water Commission. By the provisions of article 2 the general administration of the treaty is entrusted to the International Boundary Commission organized under the convention of March 1, 1889, between the United States of America and Mexico, the name of the Commission being changed to International Boundary and Water Commission. The Commission is given the status of an international body, consisting of a United States section and a Mexican section, and it is provided that each Government shall accord diplomatic status to the Commissioner and certain of the other officers of the section of the other Government. Article 2 specifies the Department of State of the United States of America and the Ministry of Foreign Relations of Mexico as the agencies to represent the two Governments in every case wherein action by the Government is required. Article 3 prescribes an order of preferences for the joint use of international waters.

Part II, consisting of five articles, has particular relation to the Rio Grande (Rio Bravo). Of the waters of this river below Fort Quitman the United States, by article 4, is allotted—

1. All of the waters contributed to the main stream by the measured United States tributaries, chiefly by the Pecos and Devils Rivers.

2. One-half of the flow in the Rio Grande below the lowest major international reservoir so far as this flow is not otherwise specifically allotted by the treaty.

3. One-third of the flow reaching this river from the measured Mexican tributaries above the Alamo River, provided that this one-third shall never be less than 350,000 acre-feet each year as an average in 5-year cycles.

4. One-half of all other flows occurring in the main channel of the Rio Grande.

The quantity thus allotted will not only supply existing uses but also will permit, by an efficient use of the water, considerable expansion of irrigated areas in Texas.

The remaining articles in part II make provision for the construction and operation of international works on the Rio Grande. Of chief importance is the provision, in article 5, for construction, by the two sections of the Commission, of three major international storage dams between the Big Bend and the head of the Lower Valley of Texas to provide capacity for water storage, for flood control and for the retention of silt. This article also makes provision for the construction of international auxiliary works in the Rio Grande. The cost of storage dams is to be divided in proportion to the conservation capacity allotted to each country, and the cost of other works is to be prorated in proportion to the benefits each country is to receive from each of these works. Articles 6 and 7 authorize the Commission to study, investigate, and prepare plans for flood-control works and for international hydroelectric plants on the Rio Grande. Articles 8 and 9 charge the Commission, subject to the approval of the Governments, with the preparation of rules and regulations for the storage, conveyance, and delivery of the waters of the Rio Grande, including the assignment to each country of capacities in the reservoirs. The Commission also is entrusted with the keeping of records of the waters belonging to each country and of all uses, diversions, and losses of these waters.

Part III, which is divided into six articles, prescribes the rules that are to govern the allocation and delivery to Mexico of a portion of the waters of the Colorado River. By article 10 the United States guarantees to Mexico a minimum quantity of 1,500,000 acre-feet of water each year, this water to be delivered in accordance with schedules to be furnished in advance by the Mexican section of the Commission. Beyond this minimum quantity the United States will allocate to Mexico, whenever the United States section decides there is a surplus of water, an additional quantity up to a total, including the 1,500,000 acre-feet, of not more than 1,700,000 acre-feet per year. Mexico may use any other waters that arrive at her points of diversion, but can acquire no right to any quantity beyond the 1,500,000 acre-feet. These quantities, which may be made up of any waters of the Colorado River from any and all sources, whether direct river flows, return flow, or seepage, will be delivered by the United States in the boundary portion of the Colorado River, except that until 1980 Mexico may receive 500,000 acre-feet annually, and after that year 375,000 acre-feet annually through the All-American Canal as part of the guaranteed quantity. By another provision the United States will undertake, if the Mexican diversion dam is located entirely

in Mexico, to deliver up to 25,000 acre-feet, out of the total allocation, at the Sonora land boundary near San Luis.

In order to facilitate the delivery and diversion of Mexico's allocation, Mexico, as provided in article 12, is to build at its expense, within 5 years from the date the treaty enters into force, a main diversion structure in the Colorado River below the upper boundary line. If this dam is built in the limitrophe section of the river, its plans and construction must be approved by the Commission. Wherever it is built, there shall be constructed at the same time, at Mexico's expense, the works which, in the opinion of the Commission, may be necessary to protect lands in the United States against damage from floods and seepage which might result from the construction, operation, and maintenance of this dam. The United States, as provided in article 12, is to build a regulating dam, known as Davis Dam, at a point between Boulder Dam and Parker Dam, and is to use a portion of the capacity of this dam and reservoir to make possible the regulation, at the boundary, of water allotted to Mexico. Furthermore, the Commission is to make all necessary measurements of water flows, and the data obtained as to deliveries and flows are to be periodically compiled and exchanged between the two sections. Article 12 provides also that the United States, through its section of the Commission, is to acquire or construct and permanently own, operate, and maintain the works required for the delivery of Colorado River waters to Mexican diversion points on the land boundary. Article 13 provides that the Commission shall study, investigate, and prepare plans for flood control on the Lower Colorado. Article 14 provides that Mexico is to pay an equitable part of the construction, maintenance, and operating costs of Imperial Dam and the Imperial Dam-Pilot Knob section of the All-American Canal, and is to pay all of such costs of works used entirely by Mexico. Article 15, relating to the annual schedules of deliveries to Mexico of Colorado River waters, provides that Mexico, in advance of each calendar year, is to supply two schedules, one to deal with the water to be delivered in the Colorado River and the other to deal with the water to be delivered through the All-American Canal. These schedules are subject to certain limitations, especially in regard to rates of flow at different times of the year, in order to provide assurance that the United States, in the period of ultimate development, will obtain credit for practically all of the flows that will be expected in the river as the result of United States uses and operations.

Part IV, consisting solely of article 16, places upon the Commission the duty of making investigations and reports regarding the most feasible projects for the conservation and use of the waters of the Tijuana River system and of submitting a recommendation for the allocation of these waters between the two countries.

The nine articles of part V contain provisions of a general nature relating to certain uses of the river channels and of the surfaces of artificial international lakes, to the international works, and to the Commission. By article 20 the two Governments, through their respective sections of the Commission, agree to carry out the construction of works allotted to them. By article 23 the two Governments undertake to acquire all private property necessary for the construction, maintenance, and operation of the works and to retain, through their respective sections, ownership and jurisdiction, each in its own territory, of all works, appurtenances, and other property required for the carrying out of the treaty provisions regarding the three rivers. However, the jurisdiction of each section of the Commission is definitely restricted to the territory of its own country.

Article 24 entrusts to the Commission certain powers and duties in addition to those specifically provided in the treaty. These powers and duties include the making of investigations and preparation of plans for works and the control thereof; the exercise of jurisdiction by the respective sections over all works; the discharge of the specific powers and duties entrusted to the Commission by this and other treaties; the prevention of any violation of the terms of the treaty; the settlement of all differences that may arise regarding the treaty; the preparation of reports and the making of recommendations to the respective Governments; and the construction, operation, and maintenance of all necessary gaging stations.

It is provided in article 25 that the Commission shall conduct its proceedings in accordance with the rules laid down by articles III and VII of the convention of March 1, 1889. In general, the Commission is to retain all duties, powers, and obligations assigned to it by previous treaties and agreements, so that the present treaty merely augments the Commission's powers, duties, and obligations.

Part VI, having two articles, contains transitory provisions. By article 26 Mexico undertakes, during a period of 8 years from the effective date of the treaty or until the beginning of operation of the lowest major international reservoir on the Rio Grande, to cooperate with the United States to relieve, in times of drought, water shortages in the Lower Rio Grande Valley of Texas. To this end Mexico, if requested, will release up to a total of 160,000 acre-feet of water during these 8 years from El Azúcar Reservoir on the San Juan River for the use of such lands in Texas, provided that Mexico shall be under no obligation to release for this purpose more than 40,000 acre-feet in any one year. By article 27, during the 5 years before Davis Dam and the Mexican diversion dam are built, the United States will permit Mexico, at its own expense, to build, under proper safeguards, a temporary diversion structure in the Colorado River for the purpose of diverting water into the present Alamo Canal. Furthermore, the United States undertakes to cooperate with Mexico to the end that the Mexican irrigation requirements during this temporary period may be set for the lands under irrigation during 1943, provided that the water needed therefor is not currently required in the United States.

Part VII, consisting solely of article 28, contains the final provisions relating to ratification, entry into force, and termination. It is provided that the treaty shall enter into force on the day of the exchange of ratifications, and that it shall continue in force until terminated by another treaty concluded for that purpose between the two Governments.

Finally, it should be noted that the treaty provides that, in case of drought or serious accident to the hydraulic works in the United States, deliveries of Colorado River water to Mexico will be curtailed in the same proportion as uses in the United States are reduced, and that, if for similar reasons Mexico cannot provide the minimum 350,000 acre-feet from its measured tributaries of the Rio Grande, the deficiency is to be made up from these tributaries during the following 5-year cycle.

Respectfully submitted.

CORDELL HULL.

(Enclosure: Treaty between the United States and Mexico, February 3, 1944, relating to waters of the Colorado and Tijuana Rivers and of the Rio Grande.)

TREATY BETWEEN THE UNITED STATES AND MEXICO, RELATING TO WATERS OF THE COLORADO AND TIJUANA RIVERS AND OF THE RIO GRANDE

The Government of the United States of America and the Government of the United Mexican States: animated by the sincere spirit of cordiality and friendly cooperation which happily governs the relations between them; taking into account the fact that Article VI and VII of the Treaty of Peace, Friendship, and Limits between the United States of America and the United Mexican States signed at Guadalupe Hidalgo on February 2, 1848, and Article IV of the boundary treaty between the two countries signed at the City of Mexico December 30, 1853, regulate the use of the waters of the Rio Grande (Rio Bravo) and the Colorado River for purposes of navigation only; considering that the utilization of these waters for other purposes is desirable in the interest of both countries, and desiring, moreover, to fix and delimit the right of the two countries with respect to the waters of the Colorado and Tijuana Rivers, and of the Rio Grande (Rio Bravo) from Fort Quitman, Texas, United States of America, to the Gulf of Mexico, in order to obtain the most complete and satisfactory utilization thereof, have resolved to conclude a treaty and for this purpose have named as their plenipotentiaries:

The President of the United States of America:

Cordell Hull, Secretary of State of the United States of America, George S. Messersmith, Ambassador Extraordinary and Plenipotentiary of the United States of America in Mexico, and Lawrence M. Lawson, United States Commissioner, International Boundary Commission, United States and Mexico; and

The President of the United Mexican States:

Francisco Castillo Nájera, Ambassador Extraordinary and Plenipotentiary of the United Mexican States in Washington, and Rafael Fernández MacGregor, Mexican Commissioner, International Boundary Commission, United States and

Mexico; who, having communicated to each other their respective Full Powers and having found them in good and due form, have agreed upon the following:

I—PRELIMINARY PROVISIONS

ARTICLE 1

For the purposes of this Treaty it shall be understood that:

- (a) "The United States" means the United States of America.
- (b) "Mexico" means the United Mexican States.
- (c) "The Commission" means the International Boundary and Water Commission, United States and Mexico, as described in Article 2 of this Treaty.
- (d) "To divert" means the deliberate act of taking water from any channel in order to convey it elsewhere for storage, or to utilize it for domestic, agricultural, stock-raising or industrial purposes whether this be done by means of dams across the channel, partition weirs, lateral intakes, pumps, or any other methods.
- (e) "Point of diversion" means the place where the act of diverting the water is effected.
- (f) "Conservation capacity of storage reservoirs" means that part of their total capacity devoted to holding and conserving the water for disposal thereof as and when required, that is, capacity additional to that provided for silt retention and flood control.
- (g) "Flood discharges and spills" means the voluntary or involuntary discharge of water for flood control as distinguished from releases for other purposes.
- (h) "Return flow" means that portion of diverted water that eventually finds its way back to the source from which it was diverted.
- (i) "Release" means the deliberate discharge of stored water for conveyance elsewhere or for direct utilization.
- (j) "Consumptive use" means the use of water by evaporation, plant transpiration, or other manner whereby the water is consumed and does not return to its source of supply. In general it is measured by the amount of water diverted less the part thereof which returns to the stream.
- (k) "Lowest international dam or reservoir" means the major international dam or reservoir situation farthest downstream.
- (l) "Highest major international dam or reservoir" means the major international dam or reservoir situated farthest upstream.

ARTICLE 2

The International Boundary Commission established pursuant to the provisions of the Convention between the United States and Mexico signed in Washington March 1, 1889, to facilitate the carrying out of the principles contained in the Treaty of November 12, 1884, and to avoid difficulties occasioned by reason of the changes which take place in the beds of the Rio Grande (Rio Bravo) and the Colorado River shall hereafter be known as the International Boundary and Water Commission, United States and Mexico, which shall continue to function for the entire period during which the present Treaty shall continue in force. Accordingly, the term of the Convention of March 1, 1889, shall be considered to be indefinitely extended, and the Convention of November 21, 1900, between the United States and Mexico regarding that Convention shall be considered completely terminated.

The application of the present Treaty, the regulation and exercise of the rights and obligations which the two Governments assume thereunder, and the settlement of all disputes to which its observance and execution may give rise are hereby entrusted to the International Boundary and Water Commission, which shall function in conformity with the powers and limitations set forth in this Treaty.

The Commission shall in all respects have the status of an international body, and shall consist of a United States Section and a Mexican Section. The head of each Section shall be an Engineer Commissioner. Wherever there are provisions in this Treaty for joint action or joint agreement by the two Governments, or for the furnishing of reports, studies, or plans to the two Governments, or similar provisions, it shall be understood that the particular matter in question shall be handled by or through the Department of State of the United States and the Ministry of Foreign Relations of Mexico.

The Commission or either of its two Sections may employ such assistants and engineering and legal advisers as it may deem necessary. Each Government

shall accord diplomatic status to the Commissioner, designated by the other Government. The Commissioner, two principal engineers, a legal adviser, and a secretary, designated by each Government as members of its Section of the Commission, shall be entitled in the territory of the other country to the privileges and immunities appertaining to diplomatic officers. The Commission and its personnel may freely carry out their observations, studies, and field work in the territory of either country.

The jurisdiction of the Commission shall extend to the limitrophe parts of the Rio Grande (Rio Bravo) and the Colorado River, to the land boundary between the two countries, and to works located upon their common boundary, each Section of the Commission retaining jurisdiction over that part of the works located within the limits of its own country. Neither Section shall assume jurisdiction or control over works located within the limits of the country of the other without the express consent of the Government of the latter. The works constructed, acquired, or used in fulfillment of the provisions of this Treaty and located wholly within the territorial limits of either country, although these works may be international in character, shall remain, except as herein otherwise specifically provided, under the exclusive jurisdiction and control of the Section of the Commission in whose country the works may be situated.

The duties and powers vested in the Commission by this Treaty shall be in addition to those vested in the International Boundary Commission by the Convention of March 1, 1889, and other pertinent treaties and agreements in force between the two countries except as the provisions of any of them may be modified by the present Treaty.

Each Government shall bear the expenses incurred in the maintenance of its Section of the Commission. The joint expenses which may be incurred as agreed upon by the Commission, shall be borne equally by the two Governments.

ARTICLE 3

In matters in which the Commission may be called upon to make provision for the joint use of international waters, the following order of preferences shall serve as a guide:

1. Domestic and municipal uses.
2. Agriculture and stock-raising.
3. Electric power.
4. Other industrial uses.
5. Navigation.
6. Fishing and hunting.
7. Any other beneficial uses which may be determined by the Commission.

All of the foregoing uses shall be subject to any sanitary measures or works which may be mutually agreed upon by the two Governments, which hereby agree to give preferential attention to the solution of all border sanitation problems.

II—RIO GRANDE (RIO BRAVO)

ARTICLE 4

The waters of the Rio Grande (Rio Bravo) between Fort Quitman, Texas, and the Gulf of Mexico are hereby allotted to the two countries in the following manner:

A. To Mexico:

(a) All of the waters reaching the main channel of the Rio Grande (Rio Bravo) from the San Juan and Alamo Rivers, including the return flow from the lands irrigated from the latter two rivers.

(b) One-half of the flow in the main channel of the Rio Grande (Rio Bravo) below the lowest major international storage dam, so far as said flow is not specifically allotted under this Treaty to either of the two countries.

(c) Two-thirds of the flow reaching the main channel of the Rio Grande (Rio Bravo) from the Conchos, San Diego, San Rodrigo, Escondido and Salado Rivers and the Las Vacas Arroyo, subject to the provisions of subparagraph (c) of paragraph B of this Article.

(d) One-half of all other flows not otherwise allotted by this Article occurring in the main channel of the Rio Grande (Rio Bravo), including the contributions from all the unmeasured tributaries, which are those not named

in this Article, between Fort Quitman and the lowest major international storage dam.

B. To the United States:

(a) All of the waters reaching the main channel of the Rio Grande (Rio Bravo) from the Pecos and Devils Rivers, Goodenough Spring, and Alamito, Terlingua, San Felipe and Pinto Creeks.

(b) One-half of the flow in the main channel of the Rio Grande (Rio Bravo) below the lowest major international storage dam, so far as said flow is not specifically allotted under this Treaty to either of the two countries.

(c) One-third of the flow reaching the main channel of the Rio Grande (Rio Bravo) from the Conchos, San Diego, San Rodrigo, Escondido and Salado Rivers and the Las Vacas Arroyo, provided that this third shall not be less, as an average amount in cycles of five consecutive years, than 350,000 acre-feet (431,721,000 cubic meters) annually. The United States shall not acquire any right by the use of the waters of the tributaries named in this subparagraph, in excess of the said 350,000 acre-feet (431,721,000 cubic meters) annually, except the right to use one-third of the flow reaching the Rio Grande (Rio Bravo) from said tributaries, although such one-third may be in excess of that amount.

(d) One-half of all other flows not otherwise allotted by this Article occurring in the main channel of the Rio Grande (Rio Bravo), including the contributions from all the unmeasured tributaries, which are those not named in this Article, between Fort Quitman and the lowest major international storage dam.

In the event of extraordinary drought or serious accident to the hydraulic systems on the measured Mexican tributaries, making it difficult for Mexico to make available the run-off of 350,000 acre-feet (431,721,000 cubic meters) annually, allotted in subparagraph (c) of paragraph B of this Article to the United States as the minimum contribution from the aforesaid Mexican tributaries, any deficiencies existing at the end of the aforesaid five-year cycle shall be made up in the following five-year cycle with water from the said measured tributaries.

Whenever the conservation capacities assigned to the United States in at least two of the major international reservoirs, including the highest major reservoir, are filled with waters belonging to the United States, a cycle of five years shall be considered as terminated and all debts fully paid, whereupon a new five-year cycle shall commence.

The two Governments agree to construct jointly, through their respective Sections of the Commission, the following works in the main channel of the Rio Grande (Rio Bravo):

I. The dams required for the conservation, storage, and regulation of the greatest quantity of the annual flow of the river in a way to ensure the continuance of existing uses and the development of the greatest number of feasible projects, within the limits imposed by the water allotments specified.

II. The dams and other joint works required for the diversion of the flow of the Rio Grande (Rio Bravo).

One of the storage dams shall be constructed in the section between Santa Helena Canyon and the mouth of the Pecos River; one in the section between Eagle Pass and Laredo, Texas (Piedras Negras and Nuevo Laredo in Mexico); and a third in the section between Laredo and Roma, Texas (Nuevo Laredo and San Pedro de Roma in Mexico). One or more of the stipulated dams may be omitted, and others than those enumerated may be built, in either case as may be determined by the Commission, subject to the approval of the two Governments.

In planning the construction of such dams the Commission shall determine:

- (a) The most feasible sites;
- (b) The maximum feasible reservoir capacity at each site;
- (c) The conservation capacity required by each country at each site, taking into consideration the amount and regimen of its allotment of water and its contemplated uses;
- (d) The capacity required for retention of silt;
- (e) The capacity required for flood control.

The conservation and silt capacities of each reservoir shall be assigned to each country in the same proportion as the capacities required by each country in such reservoir for conservation purposes. Each country shall have an undivided interest in the flood control capacity of each reservoir.

The construction of the international storage dams shall start within two years following the approval of the respective plans by the two Governments. The works shall begin with the construction of the lowest major international storage dam, but works in the upper reaches of the river may be constructed simultaneously. The lowest major international storage dam shall be completed within a period of eight years from the date of the entry into force of this Treaty.

The construction of the dams and other joint works required for the diversion of the flows of the river shall be initiated on the dates recommended by the Commission and approved by the two Governments.

The cost of construction, operation, and maintenance of each of the international storage dams shall be prorated between the two Governments in proportion to the capacity allotted to each country for conservation purposes in the reservoir at such dam.

The cost of construction, operation, and maintenance of each of the dams and other joint works required for the diversion of the flows of the river shall be prorated between the two Governments in proportion to the benefits which the respective countries receive therefrom, as determined by the Commission and approved by the two Governments.

ARTICLE 6

The Commission shall study, investigate, and prepare plans for flood-control works, where and when necessary, other than those referred to in Article 5 of this Treaty, on the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico. These works may include levees along the river, floodways and grade-control structures, and works for the canalization, rectification and artificial channeling of reaches of the river. The Commission shall report to the two Governments the works which should be built, the estimated cost thereof, the part of the works to be constructed by each Government, and the part of the works to be operated and maintained by each Section of the Commission. Each Government agrees to construct, through its Section of the Commission, such works as may be recommended by the Commission and approved by the two Governments. Each Government shall pay the costs of the works constructed by it and the costs of operation and maintenance of the part of the works assigned to it for such purpose.

ARTICLE 7

The Commission shall study, investigate and prepare plans for plants for generating hydroelectric energy which it may be feasible to construct at the international storage dams on the Rio Grande (Rio Bravo). The Commission shall report to the two Governments in a Minute the works which should be built, the estimated cost thereof, and the part of the works to be constructed by each Government. Each Government agrees to construct, through its Section of the Commission, such works as may be recommended by the Commission and approved by the two Governments. Both Governments, through their respective Sections of the Commission, shall operate and maintain jointly such hydroelectric plants. Each Government shall pay half the cost of the construction, operation, and maintenance of such plants, and the energy generated shall be assigned to each country in like proportion.

ARTICLE 8

The two Governments recognize that both countries have a common interest in the conservation and storage of waters in the international reservoirs and in the maximum use of these structures for the purpose of obtaining the most beneficial, regular and constant use of the waters belonging to them. Accordingly, within the year following the placing in operation of the first of the major international storage dams which is constructed, the Commission shall submit to each Government for its approval, regulations for the storage, conveyance, and delivery of the waters of the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico. Such regulations may be modified, amended, or supplemented when necessary by the Commission, subject to the approval of the two Governments. The following general rules shall severally govern until modified or amended by agreement of the Commission, with the approval of the two Governments:

(a) Storage in all major international reservoirs above the lowest shall be maintained at the maximum possible water level, consistent with flood control, irrigation use, and power requirements.

(b) Inflows to each reservoir shall be credited to each country in accordance with the ownership of such inflows.

(c) In any reservoir the ownership of water belonging to the country whose conservation capacity therein is filled, and in excess of that needed to keep it filled, shall pass to the other country to the extent that such country may have unfilled conservation capacity, except that one country may at its option temporarily use the conservation capacity of the other country not currently being used in any of the upper reservoirs; provided that in the event of flood discharge or spill occurring while one country is using the conservation capacity of the other, all of such flood discharge or spill shall be charged to the country using the other's capacity, and all inflow shall be credited to the other country until the flood discharge or spill ceases or until the capacity of the other country becomes filled with its own water.

(d) Reservoir losses shall be charged in proportion to the ownership of water in storage. Releases from any reservoir shall be charged to the country requesting them, except that releases for the generation of electrical energy, or other common purpose, shall be charged in proportion to the ownership of water in storage.

(e) Flood discharges and spills from the upper reservoirs shall be divided in the same proportion as the ownership of the inflows occurring at the time of such flood discharges and spills, except as provided in subparagraph (c) of this Article. Flood discharges and spills from the lowest reservoir shall be divided equally, except that one country, with the consent of the Commission, may use such part of the share of the other country as is not used by the latter country.

(f) Either of the two countries may avail itself, whenever it so desires, of any water belonging to it and stored in the international reservoirs, provided that the water so taken is for direct beneficial use or for storage in other reservoirs. For this purpose the Commissioner of the respective country shall give appropriate notice to the Commission, which shall prescribe the proper measures for the opportune furnishing of the water.

ARTICLE 9

(a) The channel of the Rio Grande (Rio Bravo) may be used by either of the two countries to convey water belonging to it.

(b) Either of the two countries may, at any point on the main channel of the river from Fort Quitman, Texas, to the Gulf of Mexico, divert and use the water belonging to it and may for this purpose construct any necessary works. However, no such diversion or use not existing on the date this Treaty enters into force, shall be permitted in either country, nor shall works be constructed for such purpose, until the Section of the Commission in whose country the diversion or use is proposed has made a finding that the water necessary for such diversion or use is available from the share of that country, unless the Commission has agreed to a greater diversion or use as provided by paragraph (d) of this Article. The proposed use and the plans for the diversion works to be constructed in connection therewith shall be previously made known to the Commission for its information.

(c) Consumptive uses from the main stream and from the unmeasured tributaries below Fort Quitman shall be charged against the share of the country making them.

(d) The Commission shall have the power to authorize either country to divert and use water not belonging entirely to such country, when the water belonging to the other country can be diverted and used without injury to the latter and can be replaced at some other point on the river.

(e) The Commission shall have the power to authorize temporary diversion and use by one country of water belonging to the other, when the latter does not need it or is unable to use it, provided that such authorization or the use of such water shall not establish any right to continue to divert it.

(f) In case of the occurrence of an extraordinary drought in one country with an abundant supply of water in the other country, water stored in the international storage reservoirs and belonging to the country enjoying such abundant water supply may be withdrawn, with the consent of the Commission, for the use of the country undergoing the drought.

(g) Each country shall have the right to divert from the main channel of the river any amount of water, including the water belonging to the other country, for the purpose of generating hydroelectric power, provided that such diversion causes no injury to the other country and does not interfere with the international generation of power and that the quantities not returning directly to the river are charged against the share of the country making the diversion. The feasibility of such diversions not existing on the date this Treaty enters into force shall be determined by the Commission, which shall also determine the amount of water consumed, such water to be charged against the country making the diversion.

(h) In case either of the two countries shall construct works for diverting into the main channel of the Rio Grande (Rio Bravo) or its tributaries waters that do not at the time this Treaty enters into force contribute to the flow of the Rio Grande (Rio Bravo) such water shall belong to the country making such diversion.

(i) Main stream channel losses shall be charged in proportion to the ownership of water being conveyed in the channel at the times and places of the losses.

(j) The Commission shall keep a record of the waters belonging to each country and of those that may be available at a given moment, taking into account the measurement of the allotments, the regulation of the waters in storage, the consumptive uses, the withdrawals, the diversions, and the losses. For the purpose the Commission shall construct, operate and maintain on the main channel of the Rio Grande (Rio Bravo), and each Section shall construct, operate and maintain on the measured tributaries in its own country, all the gaging stations and mechanical apparatus necessary for the purpose of making computations and of obtaining the necessary data for such record. The information with respect to the diversions and consumptive uses on the unmeasured tributaries shall be furnished to the Commission by the appropriate Section. The cost of construction of any new gaging stations located on the main channel of the Rio Grande (Rio Bravo) shall be borne equally by the two Governments. The operation and maintenance of all gaging stations or the cost of such operation and maintenance shall be apportioned between the two Sections in accordance with determinations to be made by the Commission.

III—COLORADO RIVER

ARTICLE 10

Of the waters of the Colorado River, from any and all sources, there are allotted to Mexico:

(a) A guaranteed annual quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) to be delivered in accordance with the provisions of Article 15 of this Treaty.

(b) Any other quantities arriving at the Mexican points of diversion, with the understanding that in any year in which, as determined by the United States Section, there exists a surplus of waters of the Colorado River in excess of the amount necessary to supply users in the United States and the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) annually to Mexico, the United States undertakes to deliver to Mexico, in the manner set out in Article 15 of this Treaty, additional waters of the Colorado River system to provide a total quantity not to exceed 1,700,000 acre-feet (2,096,931,000 cubic meters) a year. Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system, for any purpose whatsoever, in excess of 1,500,000 acre-feet (1,850,234,000 cubic meters) annually.

In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) a year, the water allotted to Mexico under subparagraph (a) of this Article will be reduced in the same proportion as consumptive uses in the United States are reduced.

ARTICLE 11

(a) The United States shall deliver all waters allotted to Mexico wherever these waters may arrive in the bed of the limitrophe section of the Colorado River, with the exceptions hereinafter provided. Such waters shall be made up

of the waters of the said river, whatever their origin, subject to the provisions of the following paragraphs of this Article.

(b) Of the waters of the Colorado River allotted to Mexico by subparagraph (a) of Article 10 of this Treaty, the United States shall deliver, wherever such waters may arrive in the limitrophe section of the river, 1,000,000 acre-feet (1,233,489,000 cubic meters) annually from the time the Davis dam and reservoir are placed in operation until January 1, 1980, and thereafter 1,125,000 acre-feet (1,387,675,000 cubic meters) annually, except that, should the main diversion structure referred to in subparagraph (a) of Article 12 of this Treaty be located entirely in Mexico and should Mexico so request, the United States shall deliver a quantity of water not exceeding 25,000 acre-feet (30,837,000 cubic meters) annually, unless a larger quantity may be mutually agreed upon, at a point, to be likewise mutually agreed upon, on the international land boundary near San Luis, Sonora, in which event the quantities of 1,000,000 acre-feet (1,233,489,000 cubic meters) and 1,125,000 acre-feet (1,387,675,000 cubic meters) provided hereinabove as deliverable in the limitrophe section of the river shall be reduced by the quantities to be delivered in the year concerned near San Luis, Sonora.

(c) During the period from the time the Davis dam and reservoir are placed in operation until January 1, 1980, the United States shall also deliver to Mexico annually, of the water allotted to it, 500,000 acre-feet (616,745,000 cubic meters), and thereafter the United States shall deliver annually 375,000 acre-feet (462,558,000 cubic meters), at the international boundary line, by means of the All-American Canal and a canal connecting the lower end of the Pilot Knob Wasteway with the Alamo Canal or with any other Mexican canal which may be substituted for the Alamo Canal. In either event the deliveries shall be made at an operating water surface elevation not higher than that of the Alamo Canal at the point where it crossed the international boundary line in the year 1943.

(d) All the deliveries of water specified above shall be made subject to the provisions of Article 15 of this Treaty.

ARTICLE 12

The two Governments agree to construct the following works:

(a) Mexico shall construct at its expense, within a period of five years from the date of the entry into force of this Treaty, a main diversion structure below the point where the northernmost part of the international land boundary line intersects the Colorado River. If such diversion structure is located in the limitrophe section of the river, its location, design and construction shall be subject to the approval of the Commission. The Commission shall thereafter maintain and operate the structure at the expense of Mexico. Regardless of where such diversion structure is located, there shall simultaneously be constructed such levees, interior drainage facilities and other works, or improvements to existing works, as in the opinion of the Commission shall be necessary to protect lands within the United States against damage from such floods and seepage as might result from the construction, operation, and maintenance of this diversion structure. These protective works shall be constructed, operated, and maintained at the expense of Mexico by the respective Sections of the Commission, or under their supervision, each within the territory of its own country.

(b) The United States, within a period of five years from the date of the entry into force of this Treaty, shall construct in its own territory and at its expense, and thereafter operate and maintain at its expense, the Davis storage dam and reservoir, a part of the capacity of which shall be used to make possible the regulation at the boundary of the waters to be delivered to Mexico in accordance with the provisions of Article 15 of this Treaty.

(c) The United States shall construct or acquire in its own territory the works that may be necessary to convey a part of the waters of the Colorado River allotted to Mexico to the Mexican diversion points on the international land boundary line referred to in this Treaty. Among these works shall be included: the canal and other works necessary to convey water from the lower end of the Pilot Knob Wasteway to the international boundary, and, should Mexico request it, a canal to connect the main diversion structure referred to in subparagraph (a) of this Article, if this diversion structure should be built in the limitrophe section of the river, with the Mexican system of canals at a point to be agreed upon by the Commission on the international land boundary near San Luis, Sonora. Such works shall be constructed or acquired and operated and maintained by the United States Section at the expense of Mexico. Mexico shall also pay the costs of any sites or rights-of-way required for such works.

(d) The Commission shall construct, operate and maintain in the limitrophe section of the Colorado River, and each Section shall construct, operate and maintain in the territory of its own country on the Colorado River below Imperial Dam and on all other carrying facilities used for the delivery of water to Mexico, all necessary gaging stations and other measuring devices for the purpose of keeping a complete record of the waters delivered to Mexico and of the flows of the river. All data obtained as to such deliveries and flows shall be periodically compiled and exchanged between the two Sections.

ARTICLE 13

The Commission shall study, investigate and prepare plans for flood control on the Lower Colorado River between Imperial Dam and the Gulf of California, in both the United States and Mexico, and shall, in a Minute, report to the two Governments the works which should be built, the estimated cost thereof, and the part of the works to be constructed by each Government. The two Governments agree to construct, through their respective Sections of the Commission, such works as may be recommended by the Commission and approved by the two Governments, each Government to pay the costs of the works constructed by it. The Commission shall likewise recommend the parts of the works to be operated and maintained jointly by the Commission and the parts to be operated and maintained by each Section. The two Governments agree to pay in equal shares the cost of joint operation and maintenance, and each Government agrees to pay the cost of operation and maintenance of the works assigned to it for such purpose.

ARTICLE 14

In consideration of the use of the All-American Canal for the delivery to Mexico, in the manner provided in Articles 11 and 15 of this Treaty, of a part of its allotment of the waters of the Colorado River, Mexico shall pay to the United States:

(a) A proportion of the costs actually incurred in the construction of Imperial Dam and the Imperial Dam-Pilot Knob section of the All-American Canal, this proportion and the method and terms of repayment to be determined by the two Governments, which, for this purpose, shall take into consideration the proportionate uses of these facilities by the two countries, these determinations to be made as soon as Davis Dam and Reservoir are placed in operation.

(b) Annually, a proportionate part of the total costs of maintenance and operation of such facilities, these costs to be prorated between the two countries in proportion to the amount of water delivered annually through such facilities for use in each of the two countries.

In the event that revenues from the sale of hydroelectric power which may be generated at Pilot Knob becomes available for the amortization of part or all of the costs of the facilities named in subparagraph (a) of this Article, the part that Mexico should pay of the costs of said facilities shall be reduced or repaid in the same proportion as the balance of the total costs are reduced or repaid. It is understood that any such revenue shall not become available until the cost of any works which may be constructed for the generation of hydroelectric power at said location has been fully amortized from the revenues derived therefrom.

ARTICLE 15

A. The water allotted in subparagraph (a) of Article 10 of this Treaty shall be delivered to Mexico at the points of delivery specified in Article 11, in accordance with the following two annual schedules of deliveries by months, which the Mexican Section shall formulate and present to the Commission before the beginning of each calendar year:

SCHEDULE I

Schedule I shall cover the delivery, in the limitrophe section of the Colorado River, of 1,000,000 acre-feet (1,233,489,000 cubic meters) of water each year from the date Davis dam and reservoir are placed in operation until January 1, 1980, and the delivery of 1,125,000 acre-feet (1,387,675,000 cubic meters) of water each year thereafter. This schedule shall be formulated subject to the following limitations:

With reference to the 1,000,000 acre-foot (1,233,489,000 cubic-meter) quantity:

(a) During the months of January, February, October, November, and December the prescribed rate of delivery shall be not less than 600 cubic feet (17.0 cubic meters) nor more than 3,500 cubic feet (99.1 cubic meters) per second.

(b) During the remaining months of the year the prescribed rate of delivery shall be not less than 1,000 cubic feet (28.3 cubic meters) nor more than 3,500 cubic feet (99.1 cubic meters) per second.

With reference to the 1,125,000 acre-foot (1,387,675,000 cubic-meter) quantity:

(a) During the months of January, February, October, November, and December the prescribed rate of delivery shall be not less than 675 cubic feet (19.1 cubic meters) nor more than 4,000 cubic feet (113.3 cubic meters) per second.

(b) During the remaining months of the year the prescribed rate of delivery shall be not less than 1,125 cubic feet (31.9 cubic meters) nor more than 4,000 cubic feet (113.3 cubic meters) per second.

Should deliveries of water be made at a point on the land boundary near San Luis, Sonora, as provided for in Article 11, such deliveries shall be made under a subschedule to be formulated and furnished by the Mexican Section. The quantities and monthly rates of deliveries under such subschedule shall be in proportion to those specified for Schedule I, unless otherwise agreed upon by the Commission.

SCHEDULE II

Schedule II shall cover the delivery at the boundary line by means of the All-American Canal of 500,000 acre-feet (616,745,000 cubic meters) of water each year from the date Davis dam and reservoir are placed in operation until January 1, 1980, and the delivery of 375,000 acre-feet (462,558,000 cubic meters) of water each year thereafter. This schedule shall be formulated subject to the following limitations:

With reference to the 500,000 acre-foot (616,745,000 cubic meter) quantity:

(a) During the months of January, February, October, November, and December the prescribed rate of delivery shall be not less than 300 cubic feet (8.5 cubic meters) nor more than 2,000 cubic feet (56.6 cubic meters) per second.

(b) During the remaining months of the year the prescribed rate of delivery shall be not less than 500 cubic feet (14.2 cubic meters) nor more than 2,000 cubic feet (56.6 cubic meters) per second.

With reference to the 375,000 acre-foot (462,558,000 cubic meter) quantity:

(a) During the months of January, February, October, November, and December the prescribed rate of delivery shall be not less than 225 cubic feet (6.4 cubic meters) not more than 1,500 cubic feet (42.5 cubic meters) per second.

(b) During the remaining months of the year the prescribed rate of delivery shall be not less than 375 cubic feet (10.6 cubic meters) nor more than 1,500 cubic feet (42.5 cubic meters) per second.

B. The United States shall be under no obligation to deliver, through the All-American Canal, more than 500,000 acre-feet (616,745,000 cubic meters) annually from the date Davis dam and reservoir are placed in operation until January 1, 1980, or more than 375,000 acre-feet (462,558,000 cubic meters) annually thereafter. If, by mutual agreement, any part of the quantities of water specified in this paragraph are delivered to Mexico at points on the land boundary otherwise than through the All-American Canal, the above quantities of water and the rates of deliveries set out under Schedule II of this Article shall be correspondingly diminished.

C. The United States shall have the option of delivering, at the point on the land boundary mentioned in subparagraph (c) of Article 11, any part or all of the water to be delivered at that point under Schedule II of this Article during the months of January, February, October, November, and December of each year, from any source whatsoever, with the understanding that the total specified annual quantities to be delivered through the All-American Canal shall not be reduced because of the exercise of this option, unless such reduction be requested by the Mexican Section, provided that the exercise of this option shall not have the effect of increasing the total amount of scheduled water to be delivered to Mexico.

D. In any year in which there shall exist in the river water in excess of that necessary to satisfy the requirements in the United States and the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) allotted to Mexico, the United States hereby declares its intention to cooperate with Mexico in attempting to supply additional quantities of water through the All-American Canal as such additional quantities are desired by Mexico, if such use of the Canal and facilities will not be detrimental to the United States, provided that the delivery of any additional quantities through the All-American Canal shall not have the effect of increasing the total scheduled deliveries to Mexico. Mexico hereby declares its intention to cooperate with the United States by attempting to curtail deliveries of water through the All-American Canal in years of limited supply, if such curtailment can be accomplished without detriment to Mexico and is necessary to allow full use of all available water supplies, provided that such curtailment shall not have the effect of reducing the total scheduled deliveries of water to Mexico.

E. In any year in which there shall exist in the river water in excess of that necessary to satisfy the requirements in the United States and the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) allotted to Mexico, the United States Section shall so inform the Mexican Section in order that the latter may schedule such surplus water to complete a quantity up to a maximum of 1,700,000 acre-feet (2,096,931,000 cubic meters). In this circumstance the total quantities to be delivered under Schedules I and II shall be increased in proportion to their respective total quantities and the two schedules thus increased shall be subject to the same limitations as those established for each under paragraph A of this Article.

F. Subject to the limitations as to rates of deliveries and total quantities set out in Schedules I and II, Mexico shall have the right, upon thirty days' notice in advance to the United States Section, to increase or decrease each monthly quantity prescribed by those schedules by not more than 20% of the monthly quantity.

G. The total quantity of water to be delivered under Schedule I of paragraph A of this Article may be increased in any year if the amount to be delivered under Schedule II is correspondingly reduced and if the limitations as to rates of delivery under each schedule are correspondingly increased and reduced.

IV—TIJUANA RIVER

ARTICLE 16

In order to improve existing uses and to assure any feasible further development, the Commission shall study and investigate, and shall submit to the two Governments for their approval:

(1) Recommendations for the equitable distribution between the two countries of the waters of the Tijuana River system;

(2) Plans for storage and flood control to promote and develop domestic, irrigation, and other feasible uses of the waters of this system;

(3) An estimate of the cost of the proposed works and the manner in which the construction of such works or the cost thereof should be divided between the two Governments;

(4) Recommendations regarding the parts of the works to be operated and maintained by the Commission and the parts to be operated and maintained by each Section.

The two Governments through their respective Sections of the Commission shall construct such of the proposed works as are approved by both Governments, shall divide the work to be done or the cost thereof, and shall distribute between the two countries the waters of the Tijuana River system in the proportions approved by the two Governments. The two Governments agree to pay in equal shares the costs of joint operation and maintenance of the works involved, and each Government agrees to pay the cost of operation and maintenance of the works assigned to it for such purpose.

V.—GENERAL PROVISIONS

ARTICLE 17

The use of the channels of the international rivers for the discharge of flood or other excess waters shall be free and not subject to limitation by either coun-

try, and neither country shall have any claim against the other in respect of any damage caused by such use. Each Government agrees to furnish the other Government, as far in advance as practicable, any information it may have in regard to such extraordinary discharges of water from reservoirs and flood flows on its own territory as may produce floods on the territory of the other.

Each Government declares its intention to operate its storage dams in such manner, consistent with the normal operations of its hydraulic systems, as to avoid, as far as feasible, material damage in the territory of the other.

ARTICLE 18

Public use of the water surface of lakes formed by international dams shall, when not harmful to the services rendered by such dams, be free and common to both countries, subject to the police regulations of each country in its territory, to such general regulations as may appropriately be prescribed and enforced by the Commission with the approval of the two Governments for the purpose of the application of the provisions of this Treaty, and to such regulations as may appropriately be prescribed and enforced for the same purpose by each Section of the Commission with respect to the areas and borders of such parts of those lakes as lie within its territory. Neither Government shall use for military purposes such water surface situated within the territory of the other country except by express agreement between the two Governments.

ARTICLE 19

The two Governments shall conclude such special agreements as may be necessary to regulate the generation, development and disposition of electric power at international plants, including the necessary provisions for the export of electric current.

ARTICLE 20

The two Governments shall, through their respective Sections of the Commission, carry out the construction of works allotted to them. For this purpose the respective Sections of the Commission may make use of any competent public or private agencies in accordance with the laws of the respective countries. With respect to such works as either Section of the Commission may have to execute on the territory of the other, it shall, in the execution of such works, observe the laws of the place where such works are located or carried out, with the exceptions hereinafter stated.

All materials, implements, equipment, and repair parts intended for the construction, operation, and maintenance of such works shall be exempt from import and export customs duties. The whole of the personnel employed either directly or indirectly on the construction, operation, or maintenance of the works may pass freely from one country to the other for the purpose of going to and from the place of location of the works, without any immigration restrictions, passports, or labor requirements. Each Government shall furnish, through its own Section of the Commission, convenient means of identification to the personnel employed by it on the aforesaid works and verification certificates covering all materials, implements, equipment, and repair parts intended for the works.

Each Government shall assume responsibility for and shall adjust exclusively in accordance with its own laws all claims arising within its territory in connection with the construction, operation, or maintenance of the whole or of any part of the works herein agreed upon, or of any works which may, in the execution of this Treaty, be agreed upon in the future.

ARTICLE 21

The construction of the international dams and the formation of artificial lakes shall produce no change in the fluvial international boundary, which shall continue to be governed by existing treaties and conventions in force between the two countries.

The Commission shall, with the approval of the two Governments, establish in the artificial lakes, by buoys or by other suitable markers, a practicable and convenient line to provide for the exercise of the jurisdiction and control vested by this Treaty in the Commission and its respective Sections. Such line shall also mark the boundary for the application of the customs and police regulations of each country.

ARTICLE 22

The provisions of the Convention between the United States and Mexico for the rectification of the Rio Grande (Rio Bravo) in the El Paso-Juarez Valley signed on February 1, 1933, shall govern, so far as delimitation of the boundary, distribution of jurisdiction and sovereignty, and relations with private owners are concerned, in any places where works for the artificial channeling, canalization, or rectification of the Rio Grande (Rio Bravo) and the Colorado River are carried out.

ARTICLE 23

The two Governments recognize the public interest attached to the works required for the execution and performance of this Treaty and agree to acquire, in accordance with their respective domestic laws, any private property that may be required for the construction of the said works, including the main structures and their appurtenances and the construction materials therefor, and for the operation and maintenance thereof, at the cost of the country within which the property is situated, except as may be otherwise specifically provided in this Treaty.

Each Section of the Commission shall determine the extent and location of any private property to be acquired within its own country and shall make the necessary requests upon its Government for the acquisition of such property.

The Commission shall determine the cases in which it shall become necessary to locate works for the conveyance of water or electrical energy and for the servicing of any such works, for the benefit of either of the two countries, in the territory of the other country, in order that such works can be built pursuant to agreement between the two Governments. Such works shall be subject to the jurisdiction and supervision of the Section of the Commission within whose country they are located.

Construction of the works built in pursuance of the provisions of this Treaty shall not confer upon either of the two countries any rights either of property or of jurisdiction over any part whatsoever of the territory of the other. These works shall be part of the territory and be the property of the country wherein they are situated. However, in the case of any incidents occurring on works constructed across the limitrophe part of a river and with supports on both banks, the jurisdiction of each country shall be limited by the center line of such works, which shall be marked by the Commission, without thereby changing the international boundary.

Each Government shall retain, through its own Section of the Commission and within the limits and to the extent necessary to effectuate the provisions of this Treaty, direct ownership, control, and jurisdiction within its own territory and in accordance with its own laws, over all real property—including that within the channel of any river—rights-of-way and rights *in rem*, that it may be necessary to enter upon and occupy for the construction, operation, or maintenance of all the works constructed, acquired, or used pursuant to this Treaty. Furthermore, each Government shall similarly acquire and retain in its own possession the titles, control, and jurisdiction over such works.

ARTICLE 42

The International Boundary and Water Commission shall have, in addition to the powers and duties otherwise specifically provided in this Treaty, the following powers and duties:

(a) To initiate and carry on investigations and develop plans for the works which are to be constructed or established in accordance with the provisions of this and other treaties or agreements in force between the two Governments dealing with boundaries and international waters; to determine, as to such works, their location, size, kind, and characteristic specifications; to estimate the cost of such works; and to recommend the division of such costs between the two Governments, the arrangements for the furnishing of the necessary funds, and the dates for the beginning of the works, to the extent that the matters mentioned in this subparagraph are not otherwise covered by specific provisions of this or any other Treaty.

(b) To construct the works agreed upon or to supervise their construction and to operate and maintain such works or to supervise their operation and maintenance, in accordance with the respective domestic laws of each country. Each Section shall have, to the extent necessary to give effect to the provisions of this Treaty, jurisdiction over the works constructed exclusively in the terri-

tory of its country whenever such works shall be connected with or shall directly affect the execution of the provisions of this Treaty.

(c) In general to exercise and discharge the specific powers and duties entrusted to the Commission by this and other treaties and agreements in force between the two countries, and to carry into execution and prevent the violation of the provisions of those treaties and agreements. The authorities of each country shall aid and support the exercise and discharge of these powers and duties, and each Commissioner shall invoke when necessary the jurisdiction of the courts or other appropriate agencies of his country to aid in the execution and enforcement of these powers and duties.

(d) To settle all differences that may arise between the two Governments with respect to the interpretation or application of this Treaty, subject to the approval of the two Governments. In any case in which the Commissioners do not reach an agreement, they shall so inform their respective governments reporting their respective opinions and the grounds therefor and the points upon which they differ, for discussion and adjustment of the difference through diplomatic channels and for application where proper of the general or special agreements which the two Governments have concluded for the settlement of controversies.

(e) To furnish the information requested of the Commissioners jointly by the two Governments on matters within their jurisdiction. In the event that the request is made by one Government alone, the Commissioner of the other Government must have the express authorization of his Government in order to comply with such request.

(f) The Commission shall construct, operate, and maintain upon the limitrophe parts of the international streams, and each Section shall severally construct, operate, and maintain upon the parts of the international streams and their tributaries within the boundaries of its own country, such stream gaging stations as may be needed to provide the hydrographic data necessary or convenient for the proper functioning of this Treaty. The data so obtained shall be compiled and periodically exchanged between the two Sections.

(g) The Commission shall submit annually a joint report to the two Governments on the matters in its charge, The Commission shall also submit to the two Governments joint reports on general or any particular matters at such other times as it may deem necessary or as may be requested by the two Governments.

ARTICLE 25

Except as otherwise specifically provided in this Treaty, Articles III and VII of the Convention of March 1, 1889, shall govern the proceedings of the Commission in carrying out the provisions of this Treaty. Supplementary thereto the Commission shall establish a body of rules and regulations to govern its procedure, consistent with the provisions of this Treaty and of Articles III and VII of the Convention of March 1, 1889, and subject to the approval of both Governments.

Decisions of the Commission shall be recorded in the form of Minutes done in duplicate in the English and Spanish languages, signed by each Commissioner and attested by the Secretaries, and copies thereof forwarded to each Government within three days after being signed. Except where the specific approval of the two Governments is required by any provision of this Treaty, if one of the Governments fails to communicate to the Commission its approval or disapproval of a decision of the Commission within thirty days reckoned from the date of the Minute in which it shall have been pronounced, the Minute in question and the decisions which it contains shall be considered to be approved by that Government. The Commissioners, within the limits of their respective jurisdictions, shall execute the decisions of the Commission that are approved by both Governments.

If either Government disapproves a decision of the Commission the two Governments shall take cognizance of the matter, and if an agreement regarding such matter is reached between the two Governments, the agreement shall be communicated to the Commissioners, who shall take such further proceedings as may be necessary to carry out such agreement.

VI—TRANSITORY PROVISIONS

ARTICLE 26

During a period of eight years from the date of the entry into force of this Treaty, or until the beginning of operation of the lowest major international

reservoir on the Rio Grande (Rio Bravo), should it be placed in operation prior to the expiration of said period, Mexico will cooperate with the United States to relieve, in times of drought, any lack of water needed to irrigate the lands now under irrigation in the Lower Rio Grande Valley in the United States and for this purpose Mexico will release water from El Azúcar reservoir on the San Juan River and allow that water to run through its system of canals back into the San Juan River in order that the United States may divert such water from the Rio Grande (Rio Bravo). Such releases shall be made on condition that they do not affect the Mexican irrigation system, provided that Mexico shall, in any event, except in cases of extraordinary drought or serious accident to its hydraulic works, release and make available to the United States for its use the quantities requested, under the following conditions: that during the said eight years there shall be made available a total of 160,000 acre-feet (197,358,000 cubic meters) and up to 40,000 acre-feet (49,340,000 cubic meters) in any one year; that the water shall be made available as requested at rates not exceeding 750 cubic feet (21.2 cubic meters) per second; that when the rates of flow requested and made available have been more than 500 cubic feet (14.2 cubic meters) per second the period of release shall not extend beyond fifteen consecutive days; and that at least thirty days must elapse between any two periods of release during which rates of flow in excess of 500 cubic feet (14.2 cubic meters) per second have been requested and made available. In addition to the guaranteed flow, Mexico shall release from El Azúcar reservoir and conduct through its canal system and the San Juan River, for use in the United States during periods of drought and after satisfying the needs of Mexican users, any excess water that does not in the opinion of the Mexican Section have to be stored and that may be needed for the irrigation of lands which were under irrigation during the year 1943 in the Lower Rio Grande Valley in the United States.

ARTICLE 27

The provisions of Articles 10, 11, and 15 of this Treaty shall not be applied during a period of five years from the date of the entry into force of this Treaty, or until the Davis Dam and the major Mexican diversion structures on the Colorado River are placed in operation, should these works be placed in operation prior to the expiration of said period. In the meantime Mexico may construct and operate at its expense a temporary diversion structure in the bed of the Colorado River in territory of the United States for the purpose of diverting water into the Alamo Canal, provided that the plans for such structure and the construction and operation thereof shall be subject to the approval of the United States Section. During this period of time the United States will make available in the river at such diversion structure river flow not currently required in the United States, and the United States will cooperate with Mexico to the end that the latter may satisfy its irrigation requirements within the limits of those requirements for lands irrigated in Mexico from the Colorado River during the year 1943.

VII—FINAL PROVISIONS

ARTICLE 28

This Treaty shall be ratified and the ratifications thereof shall be exchanged in Washington. It shall enter into force on the day of the exchange of ratifications and shall continue in force until terminated by another Treaty concluded for that purpose between the two Governments.

In witness whereof the respective Plenipotentiaries have signed this Treaty and have hereunto affixed their seals.

Done in duplicate in the English and Spanish languages, in Washington on this third day of February 1944.

FOR THE GOVERNMENT OF THE UNITED STATES OF AMERICA:

CORDELL HULL	[SEAL]
GEORGE S. MESSERSMITH	[SEAL]
LAWRENCE M. LAWSON	[SEAL]

FOR THE GOVERNMENT OF THE UNITED MEXICAN STATES:

F. CASTILLO NÁJERA	[SEAL]
RAFAEL FERNÁNDEZ MACGREGOR	[SEAL]

The CHAIRMAN. The committee will come to order.

Senators, the Committee on Foreign Relations is in session for the purpose of considering the so-called United States-Mexico Water Treaty, Executive A, which will appear in the record. This is the Seventy-ninth Congress, and the committee is very glad to have so many visitors who are interested in this matter.

Under our program, we will first have as a witness the Under Secretary of State, Mr. Grew, who will present a statement in behalf of the Secretary of State. Mr. Stettinius is unavoidably detained and cannot be present. Mr. Grew.

**STATEMENT OF EDWARD R. STETTINIUS, JR., SECRETARY OF STATE
(PRESENTED BY JOSEPH C. GREW, UNDER SECRETARY)**

MR. GREW. Mr. Chairman and members of the committee, at the request of the Secretary of State, I am reading on his behalf the following statement concerning the water treaty.

1. One of the few matters of major importance still pending between the United States and Mexico is the equitable division of the waters of three international rivers—the Rio Grande, the Colorado, and the Tijuana. During the first two decades of this century this water problem received the attention of the two Governments on several occasions and was the subject of study by joint commissions. These early efforts having failed, the Congress in 1924 passed an act approving the establishment of an International Water Commission to make a study regarding the equitable use of the waters of the Rio Grande below Fort Quitman, Tex. The refusal of the Government of Mexico to consider the Rio Grande without also considering the Colorado led in 1927 to an amendment of the 1924 act to make it cover all three rivers. The joint commission, organized under the terms of these congressional statutes, made a study of these rivers but was unable to reach an agreement, whereupon in 1932 the Commission was dissolved and the powers of the American section were transferred to the United States section of the International Boundary Commission.

2. The studies and investigations which formed the basis for the treaty now under consideration by the Senate were authorized by the Congress in the act of August 19, 1935. Since that date the Department of State, in cooperation with Mexican officials, has labored earnestly to bring about a satisfactory solution of this long-standing and troublesome problem. It must be realized that each country owes to the other some obligation with respect to the waters of these international streams, and until this obligation is recognized and defined, there must inevitably be unrest and uncertainty in the communities served by them—a condition which becomes more serious with the increasing burden of an expanding population dependent upon the waters of these streams. Thus it has been in the case of the Rio Grande and the Colorado and Tijuana Rivers. So long has settlement of this problem been delayed that there has come into existence a well-nigh intolerable situation, which the completion of Boulder Dam on the Colorado River early in 1935 has aggravated rather than relieved.

3. On the Colorado, development in the United States and in Mexico has been proceeding at a rapid rate. With an average of over 7,000,000 acre-feet of water now wasting annually through Mexican

territory into the Gulf of California, it is of the utmost importance to both nations that there should be an allocation, once and for all, of the waters of this stream, so that, on the one hand, conflicting development and overexpansion, with their attendant disastrous consequences, may be checked and, on the other hand, development may proceed in an orderly and secure manner, free of the uncertainties as to future available water supply which hamper and retard sound growth. Hardship, misunderstanding, and bitterness are the only alternatives to an early and equitable solution of the problem.

4. The treaty now under consideration protects, in large measure, existing uses in Mexico on the Colorado River. In the United States, not only are existing uses protected, but opportunity is given for great expansion. Less than half of the water which will be available to the United States under this treaty is now being beneficially used. On the other hand, I am informed by men skilled in these matters and familiar with all the facts that more than half of the million and a half acre-feet of water allocated to Mexico will be made up, under conditions of ultimate development in the United States, of waste and return flows from lands within the United States.

5. The Department is indebted in very great measure to the Committee of Fourteen and Sixteen of the Colorado River Basin States for its invaluable advice and assistance in working out a statesman-like solution of the problems of this stream. It seemed to us to be in keeping with our democratic institutions and procedures that the representatives of the communities most vitally concerned should be consulted with respect to these matters, despite the fact that these questions are also of large national and international significance.

6. On the lower Rio Grande, where most of the water supply originates in Mexico, a division of the waters was agreed upon which, when coupled with the building of international dams, will protect existing uses and make possible considerable expansion in both countries. Floods of great magnitude periodically wreak havoc in the communities bordering this stream and flow unused into the Gulf of Mexico. An average of almost 4,000,000 acre-feet of water a year is thus wasted in a region where soil and climate combine to make it one of the most fertile in the world, and where, given more adequate irrigation, a great increase in productivity can be expected. The treaty provides for the building of large storage dams to hold the floods in check and almost double the usable water supply. Opportunities for the generation of hydroelectric power will also be jointly exploited, thus contributing to the development of mining and industry in the communities along the Rio Grande.

7. General jurisdiction over the administration of the treaty provisions is vested, subject to the supervision of the two Governments, in the International Boundary Commission, organized under the convention of 1889. This agency has had experience in similar matters in connection with the administration of other treaties. There will be no encroachment, however, on the functions of other Federal agencies, which will continue to control not only matters now under their jurisdiction but also facilities and operations in the United States which are to be used only partly in the fulfillment of treaty provisions. To provide even greater assurance on this point, the two Governments signed on November 14, 1944, a protocol which states in explicit terms the lines of jurisdiction between the Boundary Com-

mission and its respective sections and other Federal agencies in each country.

8. The treaty is the product of long and patient negotiations on the part of both Governments. Every detail received careful consideration by men qualified by training and experience in this particular field, and we may be justly proud of the result. It must be clearly recognized that the mutual obligations of which I have spoken are international in scope, not merely unilateral. I am happy to say that the treaty which the Senate now has under consideration recognizes, defines, and makes provision for meeting these mutual obligations, on all three streams, in a manner fair and equitable to both countries. To my mind, it is an outstanding example of the settlement of international problems by mutual understanding and friendly negotiation. I cannot overemphasize its importance from the standpoint of international good will, brought about, not by the gift of any natural resource but simply by the application of those principles of comity and equity which should govern the determination of the equitable interests of two neighboring countries in the waters of international streams. I commend it unreservedly to the favorable consideration of the Senate.

The CHAIRMAN. Mr. Under Secretary, I understand that while you are presenting this statement for the Secretary, you personally have no special familiarity with this subject and would prefer not to be cross-examined; is that correct?

Mr. GREW. That is correct, Mr. Chairman.

The CHAIRMAN. There are others here, notably the next witness, who will be subject to all sorts of cross-examination. Senator Austin?

Senator AUSTIN. May I ask one clarifying question?

The CHAIRMAN. Very well, Senator Austin?

Senator AUSTIN. I understood the Under Secretary to say that at some place on the river not more than one-half of the water is being beneficially used.

The CHAIRMAN. That is on the Colorado River.

Senator AUSTIN. Yes; and I therefore would like to ask where that is.

Mr. GREW. Senator, I think that can be best explained on a map, and, if I may suggest it, Mr. Lawson, the Commissioner of the Boundary Commission, who is one of our outstanding experts on that subject, could probably explain it more clearly than I could.

The CHAIRMAN. All right, Mr. Grew. You are excused.

The next witness will be Mr. L. M. Lawson, the American Commissioner of the International Boundary Commission, who will be prepared to answer all the technical and other inquiries that the committee may see fit to make.

STATEMENT OF L. M. LAWSON, AMERICAN COMMISSIONER, INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND MEXICO

The CHAIRMAN. Mr. Lawson, if your statement does not include it, please give your name and official title for the reporters, so that we have it in the record.

Mr. LAWSON. L. M. Lawson, American Commissioner, International Boundary Commission, United States and Mexico.

The CHAIRMAN. How long have you occupied that position, Mr. Lawson?

Mr. LAWSON. About 18 years, Senator.

The CHAIRMAN. Very well. You may proceed.

Mr. LAWSON. Problems relating to the conservation and the equitable distribution of the international waters of the Rio Grande and Colorado Rivers have confronted our countries since the beginning of this century. Some smaller similar problems have arisen regarding the waters of the Tijuana River system. The question of solving these problems has become of international importance to the two countries.

Large growing communities in extensive areas in the United States are entirely dependent for their existence and future development upon the use of the waters of these rivers, the potential supply of which is limited. Investments of many millions of dollars in the United States are involved.

A similar situation prevails in Mexico, where developments requiring expanding uses of the water of these rivers have progressed rapidly during the recent years.

Developments on tributaries of the lower Rio Grande have so depleted the natural flow of that river that there is not now sufficient water during low-flow periods to supply established uses in American territory, although millions of acre-feet of floodwaters feasible for storage for beneficial use empty annually into the Gulf of Mexico. Only by agreement between the two Governments can the maximum feasible conservation of these floodwaters and their equitable distribution between the two countries be brought about. Adequate protection of established beneficial uses and further reclamation of arid lands in the lower Rio Grande Valley in the United States are entirely dependent upon such an agreement.

Developments on the Colorado River, in the United States, and particularly the placing in operation of storage and diversion dams, have brought about a changed situation in the waters of that river. As the result of regulated releases of water at these dams an abundant flow of usable water now enters Mexican territory, which includes nearly half of the waters already apportioned to the Lower Colorado River Basin States, under provisions of the Colorado River Compact and the Boulder Canyon Project Act. Many years will probably elapse before all of these apportioned waters can be used in the United States, except for power production. In the meanwhile, a serious international problem can be prevented only by agreement between the two Governments.

An agreement between the two Governments is likewise necessary in order further to conserve for beneficial uses and divide equitably between the two countries the waters of the Tijuana River system. Although the quantity of water which will thus accrue to the United States is relatively small, under the Tijuana River system it will undoubtedly prove valuable in supplying future requirements in San Diego County, Calif.

The pending treaty contains the agreement deemed necessary to solve these various problems, in that it provides for—

(1) Maximum feasible conservation by storage-dam construction and the equitable distribution between the two countries of the waters of the Rio Grande below Fort Quitman, Tex. The point, Fort Quit-

man, Tex., is used because there is in existence a treaty of 1906 which covers the equitable distribution of the waters to that point;

(2) Definite limitations on the quantities of Colorado River water, including return and other excess flows, to be used by Mexico, calculated to involve less prime water than now remains unapportioned by the Colorado River Compact;

(3) A plan of joint investigation and study looking to further conservation and the equitable distribution between the two countries of the waters of the Tijuana River system; and

(4) The method and means deemed necessary to facilitate carrying out of the terms of that agreement, including indispensable joint channel rectification and adequate flood protection structures on the Colorado River below Imperial Dam and on the Rio Grande below Fort Quitman, Tex., as well as joint development of hydroelectric power at the international dams to be constructed on the Rio Grande.

The pending treaty is not concerned with the Rio Grande above Fort Quitman, Tex. The distribution between the two countries of the waters of that section of the river was determined by the treaty signed at Washington in 1906. Part of the waters involved, which originate entirely within the United States, had been used to irrigate Mexican lands in the Juarez Valley. Following irrigation developments in New Mexico at the beginning of the century, there was no longer sufficient natural flow to irrigate the said Mexican lands and the Mexican Government presented a claim for damages, thus invoking the principle whereby established beneficial uses of water are deemed entitled to protection against encroachment resulting from upstream diversions. An agreement was reached between the two Governments and embodied in the treaty of 1906, whereby there was allotted to Mexico, annually in perpetuity, after completion of the Elephant Butte storage dam, 60,000 acre-feet of the waters of the Rio Grande above Fort Quitman, Tex., for the purpose of continuing to irrigate Mexican lands in the Juarez Valley previously supplied by such waters.

This same principle was adhered to in determining the equitable distribution between the countries of the international waters of the Rio Grande and Colorado River provided for in the pending treaty, to the distinct advantage of the United States and Mexico.

Mr. Chairman, with your permission I would like to put up maps of the drainage areas of those two countries, so there might be some description of the area involved.

The CHAIRMAN. Insofar as the mechanical facilities will permit, that is true. Are those the maps you are talking about, there?

Mr. LAWSON. That is right; yes, sir.

The CHAIRMAN. All right.

Mr. LAWSON. The center map shows a diagram of the entire border area involved both on the Rio Grande and on the Colorado. (See fig. 1, p. 205.) On the right is the Rio Grande Basin, involving the States of Colorado, New Mexico, and Texas, and, in Mexico, the States of Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas. (See fig. 10, p. 212.) The red line along the boundary, and the Rio Grande, which is the boundary, shows the area to which this treaty will apply. Above that point, the 1906 treaty is in force.

The Rio Grande rises in southern Colorado and flows in a southerly direction through New Mexico to El Paso, Tex., where it be-

comes the boundary line between the United States and Mexico for about 1,200 miles, then empties into the Gulf of Mexico. Near Fort Quitman the river enters a canyon section which divides the upper from the lower basin. Irrigation developments in the United States and the allocation of water to Mexico, under the treaty of 1906, practically account for the entire flow of the river above Fort Quitman, as regulated at Elephant Butte and Caballo Dams in New Mexico.

The CHAIRMAN. I do not want to interrupt you, but right on that point, in order to make this clear to members of the committee who are probably not so familiar with it as some of us are, as I understand it, when we erected this Elephant Butte Dam in New Mexico it had the effect of impounding waters that theretofore had come down the Rio Grande and that had been used by Mexican owners opposite El Paso, in the Juarez Valley, is that correct?

Mr. LAWSON. That is right, sir.

The CHAIRMAN. In order to compensate those owners and to protect them in the water that they had theretofore used, we made a treaty in 1906, allocating 60,000 acre-feet of waters coming down the Rio Grande to Mexican owners, is that correct?

Mr. LAWSON. Yes, sir; and there are a number of points of similarity between that treaty and the one which is now presented for consideration.

The cost of impounding Mexico's share of the waters of the Rio Grande was provided by the United States and represents a million dollars which was appropriated to take care of the storage and the delivery of their portion of the waters.

A point of similarity of importance is that all the waters of the Rio Grande in the United States could be used advantageously in the United States.

The treaty provides for a scheduled delivery of supply throughout the year. I am speaking now of the 1906 treaty.

The CHAIRMAN. That is one of the reasons why, as I understand it, above Fort Quitman this treaty does not interfere at all with the terms of the 1906 treaty.

Mr. LAWSON. That is correct, Senator.

From Fort Quitman to the mouth of the Devils River, a distance of about 600 river miles, the Rio Grande flows for a considerable distance through canyons in a mountainous country. The irrigable areas in this section are not extensive and are practically all developed.

From the Devils River to Roma, Tex., a distance of about 300 miles, the river flows through a hilly section having extensive areas of irrigable lands.

From Roma, Tex., to the Gulf of Mexico, the river meanders through the lower Rio Grande Valley, for a distance of about 250 miles, or twice the length of a straight line between Roma and its mouth. There are approximately 1,000,000 acres of agricultural lands on the American side of this valley and about the same number of acres on the Mexican side. The climate is semitropical. The developed area in the United States now comprises slightly less than 500,000 acres and supports a population of approximately a quarter of a million people.

WATER SUPPLY

The principal water supply of the Rio Grande below Fort Quitman, Tex., is derived from flood run-off following storms in various areas of the watershed which occur principally from May to September.

About 70 percent of the supply originates in Mexican territory and reaches the river from Mexico's principal tributaries, namely, the Rio Conchos near Presidio, Tex.; the Rio Salado, between Laredo and Roma, Tex.; and the San Juan, below Roma. Developments on the San Juan in Mexico, however, already account for practically all the flow of that river.

About 30 percent of the supply originates in the United States and is contributed principally by the Pecos and the Devils Rivers, both of which flow into the main stream near Del Rio, Tex.

The historical flow of the river, as measured just below the mouth of the Rio Conchos, has averaged about 1,600,000 acre-feet annually since 1900. Contributions below that point have increased the average flow to about 4,600,000 acre-feet annually near Salineño, Tex., the lowest practicable dam site on the river. Nearly 4,000,000 acre-feet of this annual supply now flows unused into the Gulf of Mexico due to the lack of international storage facilities on the main channel.

Senator AUSTIN. Mr. Chairman.

The CHAIRMAN. Senator Austin.

Senator AUSTIN. May I ask how many gallons of water there are in an acre-foot?

Mr. LAWSON. An acre-foot of water is that amount of water that would cover 1 acre 1 foot deep. That means 43,560 cubic feet. There are 7.5 gallons to the cubic foot.

In this length of river, 1,200 miles, below El Paso, there have occurred large, damaging floods, and there have occurred in recent years extreme and prolonged shortages of water; and, in spite of the fact that there are about 500,000 acres irrigated, in the lower valley, and with a rainfall of 24 inches, there is a necessary requirement for the supplementing of this rainfall with irrigation use, because of the fact that the rainfall occurs at the wrong time for the growing season; so that in the semitropical situation we find an area that depends upon the use of international waters for its development, for its continued cultivation, and even for domestic uses. We find that area of 500,000 acres in the three counties of Hidalgo, Cameron, and Willacy dependent upon their use, their diversion of the international waters, with no agreement with Mexico, and confronted with all the symptoms of an uncontrolled river, that requires storage and conservation to protect those continued uses. It is important to carry in mind, too, 70 percent of the contributions come from Mexico; that Mexico has been very diligent in pursuing its development of tributaries. This and some uses in the United States have contributed already to a very serious situation; one, of last summer, where a drought condition prevailed for some weeks, threatening investment and involving even community life through the domestic water supply.

It is conservatively estimated that under conditions of complete upstream development in both the United States and Mexico it will be possible to store for beneficial use in the international reservoirs con-

templated by the pending treaty, about 3,400,000 acre-feet annually, less estimated losses of 800,000 acre-feet annually resulting from evaporation and uncontrollable spills from such reservoirs.

DISTRIBUTION OF SUPPLY UNDER TREATY PROVISIONS

Although, as I said before, approximately 70 percent of the natural flow of the Rio Grande is supplied by Mexican tributaries, the effect of the pending treaty will be to guarantee to the United States, on the basis of established beneficial uses, approximately one-half of the natural flow, plus about 60 percent of all floodwaters which can be impounded in the contemplated international reservoirs, that is, approximately 2,000,000 acre-feet, less chargeable losses, or sufficient water to make possible the irrigation of about 400,000 acres of land in the United States, in addition to the 500,000 acres now under irrigation.

At this point it might be well, Senator, to call attention to some of those extremes of flood. For instance, we have Devils River, which is about 90 miles long, with about 4,000 square miles of drainage area; after a 2-day rainfall, it contributed to the main stream over 600,000 second-feet of water—over twice that of the highest record flood discharge of the Colorado River, at Yuma, Ariz. On the other hand, this very disastrous flood of 1932, the highest recorded one, was preceded by a drought period which was so serious that drinking water was shipped into Brownsville, Tex., by carload. I mention that to show the effects of an uncontrolled stream, and how serious the situation is in the lower Rio Grande Valley, as to the necessary and required water supply to sustain that community.

Specifically, the pending treaty allocates to the United States on the lower Rio Grande—

(a) All waters contributed to the main stream from the principal or measured American tributaries, including the Pecos and Devils Rivers. In other words, we reserve to ourselves all those contributions from the United States in those principal tributaries;

(b) One-third of all contributions from the principal Mexican tributaries which enter the main stream above Salineno, Tex., the lowest practicable dam site on the river; providing that these contributions shall aggregate not less than 350,000 acre-feet annually, during 5-year cycles; and

(c) One-half of all other waters reaching the main stream, except contributions from the San Juan and Alamo Rivers in Mexico, which empty into the main stream below the lowest feasible reservoir site.

To Mexico this treaty makes an allocation of—

(a) All contributions to the main stream from the San Juan and Alamo Rivers;

(b) Two-thirds of all contributions from the principal Mexican tributaries which enter the main stream above Salineno, Tex., provided that not less than 350,000 acre-feet annually from these sources shall accrue to the United States; and

(c) One-half of all other waters reaching the main channel of the river.

DAMS, RESERVOIRS, AND AUXILIARY WORKS

The pending treaty provides for the construction, operation, and maintenance by the International Boundary and Water Commission

of three major international dams and reservoirs on the main channel of the river between the Big Bend and Salineno, Tex. The reservoirs will be designed to provide maximum feasible water storage, flood control, and silt retention capacities. All costs are to be prorated in proportion to the capacities assigned to each country.

The pending treaty likewise provides for the construction, operation, and maintenance by the said Commission of hydroelectric power plants at the international dams. All costs are to be borne equally by the two Governments and each will be entitled to the use of one-half the generated power. Revenue from the sale of power over and above cost of operation and maintenance can be used to amortize costs of these projects.

The pending treaty also provides for an investigation and study by the said Commission of a plan for adequate joint flood control and channel rectification on the lower Rio Grande, and the two Governments agree to construct all works the plans of which meet their mutual approval. These works may include levees, floodways, grade control, and necessary rectification structures. All costs of such works are to be prorated in proportion to the benefits to be derived therefrom by each country.

The pending treaty authorizes the construction of these several projects subject to the approval of the two Governments. Approval by the United States of the detailed plans and cost estimates for each project of course comprehends the consent of the Bureau of the Budget and the scrutiny of Congress, which alone has the power to grant or withhold necessary appropriations.

The pending treaty is not concerned with the rights which individuals or corporations may have, under the laws of the States of their respective countries, to the use of any portion of the quantities of water thereby definitely allocated to the United States and to Mexico.

Uses of all waters allocated to the United States by the pending treaty are, of course, subject to the jurisdiction of the appropriate authorities of the State concerned, or of a Federal agency, such as the Bureau of Reclamation, when operating an irrigation project in that State.

Are there some questions on the Rio Grande before we leave that river, or would you like some further details on the physical set-up of the area?

The CHAIRMAN. You may proceed in your own way.

Senator AUSTIN. I should like to ask one further question.

The CHAIRMAN. Senator Austin.

Senator AUSTIN. That is, whether it is necessary to multiply 42,562 cubic feet by $7\frac{1}{2}$ in order to arrive at the number of gallons; is that right?

Mr. LAWSON. Right; yes, sir.

Senator AUSTIN. Thank you.

The CHAIRMAN. All right. Go ahead, Mr. Lawson.

Mr. LAWSON. Running a chance of being somewhat tiresome, I should like to get over some of the figures on the Rio Grande drainage area and the flow of the river.

The CHAIRMAN. Go ahead.

Senator BRIDGES. Are you talking about the Colorado?

Mr. LAWSON. I am talking about the Rio Grande still, Senator.

Senator BRIDGES. All right; I could not hear you from over here.

Mr. LAWSON. The principal existing storage works on the Rio Grande are the Elephant Butte storage reservoir, about 125 miles above El Paso, built largely to satisfy the international situation, completed in 1916, and regulating the flow, not completely, but largely, below that point.

So there has been compliance with the treaty with Mexico as to delivery of these 60,000 acre-feet per annum, which is what that treaty called for.

What water remains in the river below El Paso is largely return flow, recovered waters through drainage canals, and waste ways. The lower Rio Grande really begins in any sizable quantity by the entrance of the Rio Conchos from Mexico.

On the Pecos, the principal tributary in the United States, the lowest controlling structure is the Red Bluff Dam. There are none on the Devils River; but in Mexico we have on the Conchos a large structure, almost the same in capacity as the Elephant Butte, or the Boquilla Dam; on the Salado, the next tributary, the Don Martin Dam; and on the San Juan, the Azucar; all controlling to a large extent the flows of the tributaries from Mexico.

The maximum recorded flow of the Rio Grande was in 1932, when there was a discharge of 600,000 cubic feet per second, and a discharge in that year of 9,500,000 acre-feet.

The rainfall in the area below Fort Quitman varies from 10 inches to 24 inches. The irrigated area in the United States totals about 700,000 acres, largely in the lower Rio Grande Valley. In Mexico, the irrigated area is about 500,000 acres, mostly on the tributaries.

The irrigable area that is possible of feasible irrigation in the United States is about 1,000,000 acres, and in Mexico a similar figure.

There have been agreements between the United States and Mexico for certain other works on the Rio Grande. As a result of the flood of 1923, the two countries agreed to establish certain flood control works in the Lower Valley, with an allocation of flood discharge to Mexico of all the amount of water normally discharged in that territory and similarly in the United States. There has been constructed the flood-control project called the lower Rio Grande flood-control project, which is for the purpose of complying with that agreement.

Are there any questions, Senator, on the Rio Grande?

The CHAIRMAN. Are there any questions, Senators?

Senator McFARLAND. I wonder if Mr. Lawson has copies of his statement available? It would be easier to follow him.

Senator BRIDGES. We cannot hear his statement over here.

The CHAIRMAN. Well, substantially his statement appears in this large black book, but I understand it is not exactly what he is saying.

Senator AUSTIN. Mr. Chairman—

The CHAIRMAN. Senator Austin.

Senator AUSTIN. Can the answer be given to the question: What relationship does the quantity of water that is promised to be delivered to Mexico have to the historic delivery to Mexico? We have had here a history, apparently, of the development on the Rio Grande. We must deliver a certain quantity of water to Mexico, or permit it

normally. What would be the effect of this treaty on that quantity? Is there any difference in the amount of water which we guarantee in this new treaty from the amount of water that is provided by the present development?

Mr. LAWSON. On the Rio Grande, the contributions from Mexico are 70 percent; the contributions from the United States, 30 percent. The treaty provides for an equal distribution between the two countries of the amount reaching the river.

Senator BRIDGES. Do you mean contributions in money?

Mr. LAWSON. No, sir; in water.

Senator BRIDGES. We over here have not been able to hear a thing you have said.

Mr. LAWSON. I am sorry.

The CHAIRMAN. As I understand it, Senator Bridges, the testimony of the witness is that 70 percent of the water that flows down the lower Rio Grande comes from Mexico in the Conchos, the Salado, and the San Juan Rivers, naturally, normally, without any works of any kind. But under the treaty it is provided that that water shall be divided 50 percent to Mexico and 50 percent to the United States, with allocation to the United States of 60 percent of the floodwaters.

Mr. LAWSON. Right.

Senator WILEY. What has been the contribution heretofore?

Mr. LAWSON. There is no present agreement with respect to contribution. The treaty provides that none of our own contributions are allocated to Mexico. We keep our own contributions. The main tributaries, the Pecos and the Devils, are reserved for our own use, whatever their flow may be.

On the other hand, the treaty provides that there shall be a guaranteed minimum from Mexican tributaries for our own use.

Senator BARKLEY. May I ask you how you can allocate to the United States water that flows into this river below the Mexican border? You say that 70 percent of the water in the lower Rio Grande is contributed by streams that flow into it in Mexico, and 30 percent above the border. How can you allocate to the United States any part of the water that flows into the river below the border?

Mr. LAWSON. Mexico has agreed to it by this treaty.

Senator BARKLEY. Perhaps I ought to ask how you are going to get it to flow back uphill.

The CHAIRMAN. As I understand it, Mexico has dams on those rivers in Mexico.

Mr. LAWSON. That is correct.

The CHAIRMAN. Through the control of those dams, Mexico can control the release of the water, and it agrees to release enough water in those streams to make up the 50 percent allocable to the United States; is that correct?

Mr. LAWSON. Only partially, sir.

Senator WILEY. What is more, you are building three other dams on the Rio Grande to control floodwater, so that you can allocate it?

Mr. LAWSON. The only means of making that water available both to the United States and to Mexico is to have storage reservoirs on the main international boundary line, which so far has been prevented because it was the international boundary line.

Senator BARKLEY. Are these dams in Mexico of sufficient height so that the water impounded flows back into the United States? Or does any part of it drain into the United States?

Mr. LAWSON. These tributaries in Mexico flow toward the main Rio Grande and form the international river.

Senator BARKLEY. I think you said there are already three dams in Mexico.

Mr. LAWSON. There are, yes, sir; on those tributaries that more or less regulate the flow.

Senator BARKLEY. The water impounded by reason of those dams is all in Mexico?

Mr. LAWSON. That is right.

Senator DOWNEY. Mr. Chairman, may I ask a question, if no other committee members desire to ask questions?

The CHAIRMAN. Very well.

Senator DOWNEY. Mr. Lawson, as I understand you, 70 percent of the water that is being allocated under the terms of this treaty finds its course in Mexico, and 30 percent in the United States?

The CHAIRMAN. On the lower Rio Grande.

Mr. LAWSON. On the lower Rio Grande; yes, sir.

Senator DOWNEY. That is where the allocation is, is it not?

Mr. LAWSON. Yes.

Senator DOWNEY. Now, the United States in this treaty, however, comes out with 50 percent of the water, generally, and possibly 60 percent of certain flood flow?

Mr. LAWSON. That is correct.

Senator DOWNEY. Would you then term that a very favorable arrangement to the State of Texas and to the users on the Rio Grande?

Mr. LAWSON. Absolutely; it is to their benefit. Mexico is in a position by these structures on the tributaries to control practically the entire flow.

Senator DOWNEY. In other words, on the Rio Grande, while the United States contributes only 30 percent of the water, we are here discussing a treaty that gives to the water users in the United States 50 percent?

Mr. LAWSON. That is correct.

Senator DOWNEY. Now, if it is proper at this juncture, I should like to ask, just so that the committee may have a perspective, how much water of the Colorado River system is contributed by Mexico.

Mr. LAWSON. None.

Senator DOWNEY. Will you tell us how much is the total amount of water that is allocated, taking an average, on the Rio Grande under the terms of this treaty? What quantity are we dealing with in acre-feet, Mr. Lawson? 2,000,000 feet? 3,000,000 feet?

Mr. LAWSON. We are dealing with about 4,000,000 acre-feet, which would be allocated 50-50 to each country, but subject to some losses of storage and evaporation, and stream loss.

Senator DOWNEY. As a matter of fact, 4,000,000 acre-feet is the total run-off in an average year on the Rio Grande, is it not?

Mr. LAWSON. Slightly more than that; it varies from 3,000,000 to 9,000,000.

Senator DOWNEY. Has there been any objection by any water users in the State of Texas, or in the United States, to the terms of this treaty, so far as it attempts to allocate waters of the Rio Grande?

Mr. LAWSON. No; I know of none.

Senator DOWNEY. Mr. Lawson, may I ask this question: In your opinion, would the Government of Mexico consent to a severance of this treaty, so that the present terms would be considered under two treaties, one dealing exclusively with the waters of the Rio Grande, and one with the waters of the Colorado?

Mr. LAWSON. I do not understand your question, Senator. Do you mean is it possible to have a separate treaty for each river?

Senator DOWNEY. Well, I assume, of course, that it is possible, because the two rivers are entirely independent watersheds, are they not?

Mr. LAWSON. Yes; they are.

Senator DOWNEY. Now, the question I asked is, Can you tell the members of this committee if the Government of Mexico would consent to the severance of this treaty, so that we would have before the Foreign Relations Committee two treaties, one dealing with the waters of the Rio Grande, and one dealing with the waters of the Colorado?

Mr. LAWSON. I can answer that by the past history of the situation and negotiations; but for me to make a statement of what Mexico might be willing to do, I would not be in a position to do so. But from everything that we know, it is my opinion that Mexico would not be willing to make separate treaties, one for the Rio Grande and one for the Colorado.

Senator DOWNEY. As a matter of fact, have not the representatives of the Mexican Government very peremptorily stated that they would not make this treaty allocating the waters of the Rio Grande unless a treaty was made affecting the waters of the Colorado River?

Mr. LAWSON. Not in so many words, but in very many acts. For instance, we had in 1924, a commission appointed, headed by Dr. Elwood Mead, to deal with Mexico in the development of a treaty on the lower Rio Grande alone. They were unable to accomplish anything in conference or meetings because of Mexico's insistence that the powers and authority of the committee and the Commission be extended to include the Colorado River.

That was done, then, by the act of 1927, in which the Mead Commission was empowered to consider and report upon the equitable distributions of the two rivers.

Senator DOWNEY. Mr. Lawson, if the waters of the Rio Grande had been allocated between the citizens of the United States and the citizens of Mexico according to the proportion of water that each country gives to the stream, then out of the Rio Grande Mexico would be entitled to about 2,800,000 acre-feet, and the United States to about 1,200,000 acre-feet; is that correct?

Mr. LAWSON. That is correct, approximately.

Senator DOWNEY. So the State of Texas by this treaty on the Rio Grande does secure about 800,000 acre-feet more water than is contributed from the soil of the United States; is that correct?

Mr. LAWSON. No, sir; that isn't quite the situation.

Senator DOWNEY. But is that ultimate fact correct?

Mr. LAWSON. The difficulty is that these necessary storage units must be on the international boundary line and that the United States cannot make use of its own contributions without a storage dam on the international boundary line. There is no possibility of connect-

ing these tributaries so that the lower valley may use waters from the United States contributions.

Senator DOWNEY. Now, Mr. Chairman, with your permission, I will ask just one further question. If you do not deem it proper at this particular time, I will withdraw it.

Under the treaty affecting the Colorado River, Mexico is being given about 800,000 second-feet that she could not utilize except from the waters stored in Boulder Dam; is that not correct?

Mr. LAWSON. I do not understand the question, Senator.

Senator DOWNEY. Let me reframe the question. Would it be possible to give Mexico 1,500,000 acre-feet of water out of the unregulated flow of the river during July, August, and September, when they need the water for irrigation?

Mr. LAWSON. Under the present situation; yes.

Senator DOWNEY. Do you mean because we allow a great volume of water to run down from Boulder Dam, that has been stored there?

Mr. LAWSON. Yes.

Senator DOWNEY. Under the water rights and the uses that existed in both countries prior to 1927, when we passed the Boulder Dam Project Act, was it possible for Mexico to utilize more than 600,000 second-feet of the waters of the Colorado River?

Mr. LAWSON. Mexico has an irrigable area of 800,000 acres. Its development has been somewhat retarded because of economic matters, not physical matters. They had before the Boulder Dam was constructed used about 750,000 acre-feet of water; since the construction of Boulder Dam, they have increased that use until we find in the last 2 or 3 years a use of pretty close to 1,800,000 acre-feet.

Senator DOWNEY. Then, I will ask the question this way, if I may. Mr. Chairman: That use of 1,800,000 acre-feet is made possible only by the utilization of the waters in Boulder Reservoir, is it not?

Mr. LAWSON. That is correct; by the facilities which have been created in the United States.

Senator DOWNEY. That is all.

Senator TUNNELL. Mr. Lawson, I did not understand, in your response to Senator Barkley, how the water which is dammed below the boundary line benefits the United States. Perhaps it is perfectly simple to you, but I do not understand it. I should like to know how the United States is benefited. If there is a dam below the boundary line, in Mexico, how does it benefit the United States? How is the water gotten to the United States?

Mr. LAWSON. Those dams, of course, will provide for the storage of ordinary floodwaters, and the waters can be released as provided for by the treaty in such quantities and at such times as we can use it in the United States.

Senator TUNNELL. Do you mean that it is piped back into the United States?

Mr. LAWSON. No sir; these storage dams are located on tributaries of the Rio Grande, sometimes more than a hundred miles from the border or the boundary line.

Senator TUNNELL. Then, how does it get into the United States? Is it piped down?

Mr. LAWSON. No. It comes down these tributaries in Mexico, and in Mexican territory, and forms the Rio Grande at the boundary line. That is the main stem of the river.

Senator TUNNELL. At the boundary line?

Mr. LAWSON. Yes, sir.

Senator BARKLEY. At what point on the boundary line?

Mr. LAWSON. At several points. One, for instance, the main tributary, is the Conchos River, which furnishes about 1,600,000 acre-feet. That flows into the main Rio Grande at a place called Presidio, Tex.

Senator BARKLEY. Where does the Rio Grande begin to be known as the lower valley or the lower river?

Mr. LAWSON. I should say a hundred miles below El Paso.

Senator HAYDEN. Mr. Chairman, may I ask a question?

The CHAIRMAN. Senator Hayden.

Senator HAYDEN. I want to find out if my understanding is correct that there has been greater irrigation development on the American side, north of the Rio Grande, in Texas, than there has been in Mexico up to the present time.

Mr. LAWSON. Yes, Senator, there has been an increase—a rapid increase—of course, in the lower valley since 1915. There are about a quarter of a million acres more irrigated from the main stem and tributaries in the United States than in Mexico.

Senator HAYDEN. Then, so far as future developments are concerned, if dams are built in the main stream of the Rio Grande—international dams—and the water is there stored, that will assure water supply to the lands now under irrigation in the United States and permit additional lands to be irrigated in the United States. Am I correct about that?

Mr. LAWSON. That is correct; yes.

Senator HAYDEN. It will also assure water supply for whatever lands are irrigated in Mexico and will permit additional irrigation of lands in Mexico?

Mr. LAWSON. Yes, sir.

Senator HAYDEN. So the division of the water of the main stream contemplates ultimately about an equal use of the waters on both sides of the river lower down?

Mr. LAWSON. That is correct.

Senator HAYDEN. I might add, Mr. Chairman, in connection with the questions asked by Senator Downey, that I was very intimately associated with the enactment of the Boulder Canyon Project Act; and as a political fact, I should like to make it known in the record that that bill would not have passed the House of Representatives except for the aid of the Texas delegation. The reason why the Texas delegation urged and voted for the passage of the Boulder Canyon project was an assurance to them from the California delegation that if the Boulder Dam was built it would enable more water to be given to Texas. So there was a direct relationship at that time between the two proposals. I do not think there is any question about that as a historical fact.

When we talk about segregating the two rivers, they were not segregated when we contemplated construction of Boulder Dam. The proposal was then made by the Californians, and accepted by the Texans, that the building of Boulder Dam would make water available to Mexico from the Colorado River, which would enable Mexico to allow water from her tributaries to come into Texas, the situation on the two streams being, I might explain for the benefit of the committee, almost exactly the reverse. Seventy percent of the water of

the Rio Grande as contemplated by this treaty rises in Mexico; only 30 percent in the United States. On the other hand, all the water of the Colorado River originates in the United States; none of it in Mexico.

What is true of Mexico is also true of the State of California. Not a drop of the water of the Colorado River originates in that State.

So I should like you to bear those facts in mind in connection with the consideration of this treaty. It goes back to an agreement between California and Texas that led the Boulder Canyon Act to become law, and it was understood at the time that in consideration of the construction of the Boulder Canyon project, Texas would benefit by an arrangement with Mexico.

The CHAIRMAN. In what year was the Boulder Canyon Act passed? Senator HAYDEN. In 1927.

The CHAIRMAN. That is what I was saying to the Senator. I was then a Member of the House, engaged in quite a struggle to get to the Senate, but I wired my ballot in from the battlefields of the campaign in favor of the Boulder Dam project.

Senator PEPPER. Mr. Chairman, if it would not be an improper suggestion, since Senator Hayden is so thoroughly conversant with this thing and can make himself a little more distinct than Mr. Lawson, I wonder if, for the benefit of some of us who do not know much about this subject, and in further summary of the whole situation, the Senator could make a statement to us.

The CHAIRMAN. I would be very glad to hear the Senator, but we do not expect to remain in session this afternoon, and I should like to have Mr. Lawson complete his statement. Then we will be glad to hear the Senator.

Senator PEPPER. Very well.

Senator DOWNEY. In view of the statement just made by the Senator from Arizona, may I ask an additional question of Mr. Lawson?

The CHAIRMAN. Yes.

Senator DOWNEY. Mr. Lawson, you have heard the statement of the Senator from Arizona. Now, I will ask you, in interpreting and understanding his statement, is it true that in making this treaty Mexico is giving additional water to the users in the United States of the Rio Grande upon the basis that Mexico thereby gets more water out of the Colorado River than she otherwise would?

Mr. LAWSON. The answer to that, Senator, is that Mexico is getting under the treaty less water than she is using today.

Senator DOWNEY. Mr. Lawson, you have not answered my question. Let me put it this way—see if you can answer my question: Is there, as indicated or anticipated by the statement of the Senator from Arizona, a trading in this treaty of the waters from the Colorado to Mexico for waters from the Rio Grande to the United States?

Mr. LAWSON. Having been connected with the negotiation of the treaty in the fall of 1943 over a period of 45 days, I can say that at no time was there the question of trading waters between the two countries or the question of the amount that might be used in a trade between the two countries. The settlement was entirely on the basis of each stream system. There is no connection in amounts, there is no connection in the physical situation or geography, that would have any connection between the two rivers.

Senator HAYDEN. Mr. Chairman, it is a fact, however, that it would be impossible to allocate the amount of water—firm water—as provided in this treaty to Mexico out of the Colorado River if the Boulder Canyon Dam had not been built. Mexico was, up to the time the Boulder Canyon Dam was built, using practically all the water that was available from the natural flow of the stream, and they on many occasions suffered from drought. When the flow of the stream was equated by the building of Boulder Canyon Dam, and we proceeded to generate hydroelectric firm power every day in the year—it was necessary to run water out of Boulder Canyon Dam every day in order to make power, with the result, I believe, that some 7,000,000 acre-feet of water had been running out of Boulder Canon Dam every year—am I correct about that?

Mr. LAWSON. That is right.

Senator HAYDEN. That water, running out, ran down hill into Mexico, and the Mexicans have proceeded since the construction of Boulder Canyon Dam to firm up their water supply and to irrigate more land than they were irrigating at the time the dam was built. Am I correct about that?

Mr. LAWSON. Yes, sir.

Senator HAYDEN. That being the case, negotiating as of today, it is recognized that Mexico had used a quantity of water greater than it could possibly have used if Boulder Dam had not been built. Am I correct about that?

Mr. LAWSON. That is correct.

Senator HAYDEN. Then it comes back to the proposition that the Californians made good. They built Boulder Canyon Dam and made a supply of water available to Mexico to irrigate Mexican land. They have, therefore, kept their part of the bargain. So I do not see any dispute at all about the facts.

The CHAIRMAN. Mr. Lawson, one question. I believe you stated that under this treaty Mexico, out of the Colorado, would get less water—guaranteed water or firm water—than she is getting now by the natural flow of the stream as regulated by the Boulder Canyon Dam; is that correct?

Mr. LAWSON. That is true, Senator.

Senator McFARLAND. Mr. Lawson, you are prepared, I presume, in your statement to justify your position on the Colorado River, just as you have explained your position on the Rio Grande?

Mr. LAWSON. I propose to do so.

Senator McFARLAND. You are not contending that any of us should vote for this treaty just because Texas is getting a good deal here?

Mr. LAWSON. I had to select either one or the other; it just happens that I am talking about the Rio Grande.

Senator McFARLAND. As to this proposition of a trade, we were not a party to any trade like that. As far as we are concerned politically here, I think you should explain the justification for this on the basis of the Colorado River.

The CHAIRMAN. He will get to that in a moment; he cannot talk about both of them at once.

Senator DOWNEY. In view of the latter statement made by the Senator from Arizona, would it be proper for me to propound an inquiry to the Senator?

The CHAIRMAN. I have no jurisdiction over the Senator from Arizona.

Senator DOWNEY. If I may ask the Senator from Arizona this question—

The CHAIRMAN. I hope we will not get into any argument about politics or about the voting back at that time.

Senator DOWNEY. No; I will not; I will endeavor to make my question entirely relevant.

Senator GEORGE. I think it is evident that there was a good deal of log-rolling going on.

Senator DOWNEY. Is it not true, I will ask the distinguished Senator, that when the Boulder Project Act was passed, the Senate of the United States embodied in the bill, entirely contrary to this understanding that the Senator has testified about, that the waters of Boulder Dam should belong to and be used exclusively by the people of the United States?

Senator HAYDEN. There is a provision in the act to the effect that this action was taken by the United States for the benefit of the people of the United States. There is no dispute about that at all.

Senator DOWNEY. Is it not true that the distinguished Senator himself participated for many hours in the debate leading up to that amendment and that he never stated that there was any arrangement by which waters of the Colorado River should be used with Mexico in order to gain more water on the Rio Grande for the people of Texas?

Senator HAYDEN. It was a long time ago; I do not remember all about that. But all I am trying to state is that as a fact the construction of the Boulder Canyon Dam obviously required that water flow out of it—a regulated, equated flow—and that the water run down into Mexico. Therefore, it was water made available to Mexico that was not possible prior to the erection of that dam. That was known to the Texans when they supported the Boulder Canyon Act, because it enabled Mexico to gain advantages at that end of the line which would enable Texas to advantages at the other end of the line. It is a very understandable arrangement.

Senator MILLIKIN. May I ask one question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MILLIKIN. I was very much interested in Senator Downey's question as to respective contributions of water by the United States and Mexico to the Rio Grande River. I wonder if the witness will be good enough to tell us the percentages of contribution to the Colorado River of the States within the United States.

The CHAIRMAN. Does the Senator mean the various States?

Senator MILLIKIN. State by State, starting with California and moving up the stream.

Mr. LAWSON. Would you permit me to get some data on that?

Senator MILLIKIN. Yes; I am in no hurry for the answer.

Mr. LAWSON. I have the information somewhere.

The CHAIRMAN. Go ahead, Mr. Lawson. Answer the question of Senator Millikin.

Your question, Senator, is: How much water does each State within the United States contribute to the flow of the Colorado River?

Senator MILLIKIN. Exactly, sir.

The CHAIRMAN. Starting with California, I believe you said?

Senator MILLIKIN. Yes; and moving up the stream.

Mr. LAWSON. It would take too much time to locate the figures right now.

The CHAIRMAN. Can you obtain them and place them in the record at a later hearing?

Mr. LAWSON. Yes. I can make the statement now that the largest percentage of contribution is from the State of Colorado, which is, I believe, between 60 and 70 percent of the entire river supply.

Senator MILLIKIN. And the rest of it naturally comes in from the States below Colorado?

Mr. LAWSON. Various States except California.

Senator MILLIKIN. Which States would you say made the least contribution to the Colorado River?

Mr. LAWSON. The State of California. By reason of topography and other things, there is no contribution of any size.

The CHAIRMAN. I do not know what the will of the committee is, but many Senators have already left the room. I suggest that we suspend now.

Can you be here tomorrow morning to finish your statement, Mr. Lawson?

Mr. LAWSON. Tomorrow morning? Yes, sir.

The CHAIRMAN. Then, the committee will stand adjourned until tomorrow morning at 10:30 o'clock.

(At 12:05 p. m. an adjournment was taken until Tuesday, January 23, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

TUESDAY, JANUARY 23, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee reconvened at 10:30 a. m., in the caucus room, Senate Office Building, Senator Tom Connally (chairman) presiding.

Present: Senators Connally (chairman), George, Murray, Lucas, Guffey, Tunnell, Johnson of California, Capper, La Follette, Vandenberg, Austin, and Wiley.

Also present: Senators Downey, Hawkes, Hayden, McCarran, McFarland, Millikin, Murdock, O'Daniel, and O'Mahoney.

The committee resumed its consideration of the treaty with Mexico relating to the utilization of the waters of certain rivers.

The CHAIRMAN. The committee will please come to order.

All right, Mr. Lawson; are you prepared to proceed?

Mr. LAWSON. I would like, Mr. Chairman, to continue on Rio Grande and summarize the situation there.

The CHAIRMAN. Have you any idea how long it will take you to finish?

Mr. LAWSON. It will take maybe 20 or 30 minutes on that.

The CHAIRMAN. The only thing I had in mind is that Senator McCarran wants the committee to permit him to testify this morning. He is leaving town. I thought I would rather you would finish if you could before we got around to Senator McCarran.

Mr. LAWSON. It will take me 15 or 20 minutes to conclude on Rio Grande.

The CHAIRMAN. Will that satisfy you, Senator McCarran?

Senator McCARRAN. I am at the pleasure of the committee.

STATEMENT OF L. M. LAWSON, AMERICAN COMMISSIONER, INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND MEXICO—Resumed

Mr. LAWSON. With your permission, then, Mr. Chairman, I would like to refer to some charts that we have on exhibition back of me and conclude my statement on the Rio Grande.

On the board we have the general map of the Rio Grande drainage basin, showing the Rio Grande from its source in southern Colorado, passing down through New Mexico, and forming the international boundary line at El Paso. (See fig. 10, p. 212.) From El Paso to the Gulf, about 1,200 miles, it is the international boundary, and it is composed of the waters of tributaries in the United States and in Mexico. The principal tributary in the United States is the Pecos River, arising

in New Mexico and joining the Rio Grande and forming the principal contribution near Del Rio, Tex.

The second tributary of any consequence is the Devils River, just below the Pecos.

While Texas has a large number of rivers—the Colorado, the Trinity, Nueces, and many others of large discharge—none of those reach the lower Rio Grande Valley, where the largest single irrigated area is located in the State of Texas.

As I mentioned to you yesterday, the treaty of 1906 provided for the equitable distribution of waters of the Rio Grande to a point just below El Paso, Tex., called Fort Quitman. This treaty provides for the delivery by the United States of stored water from Elephant Butte Dam, constructed by the Bureau of Reclamation and completed in 1916, so that Mexico under that treaty is entitled to and receives 60,000 acre-feet of water annually, on schedule, and without cost.

At the time that treaty was signed, and also at the present time, all the water above El Paso can be used advantageously in the United States. The amount of water given to Mexico under that treaty represents the amount required for the irrigation of the area in cultivation and irrigated at the time the treaty was negotiated. The present treaty relates, then, to the area and the length of river below Fort Quitman to the Gulf of Mexico. Most of the waters of the Rio Grande are entirely consumed above Fort Quitman. There is the relatively small amount of the return flow and recovered waters, but the main river is formed by the Conchos River of Mexico, which comes into the Rio Grande at Presidio, Tex. Probably about 1,500,000 acre-feet a year is contributed to the main international stream from that source.

The contributions from the United States from the principal tributaries amount to about 1,650,000 acre-feet. On the Mexican side below the Conchos River, the Rio Salado reaches the Rio Grande just below Laredo, and below that, the San Juan, which has its source beyond Monterrey, Mexico, and contributes considerable floodwaters. There is a very great difference in rainfall, precipitation, in the area of El Paso and that at the Gulf, a difference of from 10 inches at El Paso to 24 inches near the Gulf. Rainfall reaches this area at times in tremendous quantities. It has caused phenomenal floods from small drainage areas. I mentioned yesterday the Devils River, with a very small drainage area, 4,000 square miles and 90 miles long; it caused in 1932 one of the largest and most disastrous floods to this area of the river.

RUN-OFF OF THE RIO GRANDE, BY MONTHS

This second chart represents the run-off, by months, of the Rio Grande, and it is exhibited to show the variation and the effect of lack of storage on the main stream. (See fig. 12, p. 214.) This maximum flood year of 1932 produced a run-off of over 9,000,000 acre-feet in the lower valley; but, as is evidenced from the chart, through these months there was little water to be used for irrigation. As a matter of fact, before these large floods occur there is usually a drought, and in this case of the maximum run-off year you will notice here there was little available for that large area in the lower Rio Grande in cultivation.

Storage units included in the treaty are expected to equalize this flow and make available to lands in both countries this enormous acre-footage of water now wasting to the Gulf of Mexico.

RIVER FLOW AT RIO GRANDE CITY

This chart in more detail than the former one exhibits the river flow at Rio Grande City and the diversions. (See fig. 14, p. 216.) The upper portion is rainfall. Unfortunately, it does not indicate that the rainfall of 24 inches is not generally available for irrigation use; it comes at the wrong time; and at least 2 feet of water in addition is required from the river. The water supply for the entire valley comes from the international source. The water supply for domestic use and municipal purposes also comes from the international source.

There has been developed in that area almost 500,000 acres of land, with over a quarter of a million people, dependent entirely upon this international river for their water supply both in domestic use and in the production of crops.

I would like to restate, now, Mr. Chairman, in a brief way and without two many figures, what the treaty proposes to do in the division of waters of the lower Rio Grande. It retains for Texas use, all of the Texas contributions to the water supply from the main tributaries, plus 350,000 acre-feet of Mexican main-tributary waters. The contributions from the United States tributaries total 1,650,000 acre-feet; from the Mexican tributaries, 2,350,000 acre-feet, a total of 4,000,000 acre-feet, of which the United States receives 2,000,000 acre-feet, which is 350,000 acre-feet more than its own contributions.

That completes my testimony on the Rio Grande, Mr. Chairman.

Senator DOWNEY. Mr. Chairman, could I ask some questions relating to the Rio Grande? They will be very brief.

The CHAIRMAN. They will have to be brief, Senator. We do not expect a full-dress debate on the testimony of witnesses. Senator McCarran, also, wants to leave the city.

Senator DOWNEY. I would like to ask some questions, if I may.

The CHAIRMAN. All right.

Senator DOWNEY. Mr. Lawson, did I understand you to say that the treaty of 1906 allocated 60,000 acre-feet of water out of the Rio Grande that was stored or to be stored in the Elephant Reservoir?

Mr. LAWSON. Yes, Senator; that provided for stored water from the Elephant Butte Reservoir.

Senator DOWNEY. But of course the Elephant Butte Reservoir was not built until about 10 years after that, was it?

Mr. LAWSON. It was completed in 1916.

Senator DOWNEY. Consequently, the water right that was granted to Mexico under the treaty of 1906 was not because of any water appropriated and used by Mexican citizens from the Elephant Dam Reservoir? Is that the right way to express it?

Mr. LAWSON. Yes, sir. Of course, in 1906 only the plans were being formulated for the Elephant Butte Reservoir, and no reservoir existed at that time.

Senator DOWNEY. Mr. Lawson, are you trying to show some parallelism with what was done between the two countries in 1906 on the

Rio Grande and what it is proposed to do on the Colorado River under this treaty?

Mr. LAWSON. Yes, Senator; there are some similarities.

Senator DOWNEY. Let me ask you this: Is it not true that Mexico was granted 60,000 acre-feet by the treaty of 1906 because Mexico had already utilized that amount of water from the direct flow of the stream and not from any reservoir built by the United States?

Mr. LAWSON. The amount of water which Mexico received under the treaty of 1906 was based upon the acreage that it could properly irrigate at the time that the treaty was negotiated.

Senator DOWNEY. Yes. And what I desire to point out, Mr. Lawson, is that the Colorado River treaty attempts to allocate to Mexico water that is now being appropriated by Mexico out of a reservoir built by the United States, while the 60,000 feet of water that was given to Mexico under the treaty of 1906 was from appropriations made by Mexico from the direct flow of the Rio Grande and not from any reservoir built by the United States. Now is that not correct?

The CHAIRMAN. There was no reservoir in existence; it could not have been out of the reservoir.

Senator DOWNEY. Yes, Mr. Chairman—

Mr. LAWSON. The treaty of 1906, Senator, provided for the construction of the Elephant Butte Reservoir, and in a very definite way the United States contributed \$1,000,000 toward the cost of that Elephant Butte Dam, to provide for the storage and for the carriage of the 60,000 acre-feet to be available to Mexico. At the time that the treaty was negotiated, it was impossible for Mexico to receive 60,000 acre-feet of water on schedule. It was not in the river at the right time. It needed and required storage in order to comply with that agreement.

Senator DOWNEY. But is it not true, Mr. Lawson, that for hundreds of years before that Mexico had been building up these water rights, accumulating to 60,000 feet, and that she did have direct-flow rights in the Rio Grande of 60,000 acre-feet as of 1906?

Mr. LAWSON. She may have had the rights, but she did not have the water.

The CHAIRMAN. She had not used 60,000 acre-feet of water from the Rio Grande up to that time, Mr. Lawson, for irrigation?

Mr. LAWSON. Yes; but the diversions in the United States were becoming so great as to make it impossible for her to continue the irrigation of the area that would be served by the 60,000 acre-feet.

Senator DOWNEY. That is all I have, Mr. Chairman.

The CHAIRMAN. All right, Senator.

You can proceed now, Mr. Lawson, on the Colorado River.

Will that suit you, Senator McCarran? If you would rather, we will let you go on now.

Senator McCARRAN. Oh, no; I do not want to break in.

Mr. LAWSON. I will take a long time on the Colorado, Senator.

Senator WILEY. That is what I came to hear.

Senator McCARRAN. Mr. Chairman, I can save some time for the committee. I desire very emphatically to be heard.

The CHAIRMAN. Well, we are going to emphatically hear you.

Senator McCARRAN. But I do not care to hold the committee's time. If I could be heard definitely when I return from the West, I would be glad to put it all in one parcel.

The CHAIRMAN. We want to accommodate you, Senator, and you know when you are going to return from the West.

Senator McCARRAN. I do not think I could promise this committee, with any degree of certainty, much less than 3 weeks. Now, if that is too long, I want to be fair with the committee; but I would like this privilege, if I might have it—I beg your pardon, Mr. Lawson, for interrupting—that at one time I might have an opportunity to recapitulate this whole matter and present it to the committee, and I would like to do it, not in piecemeal but perhaps at the end of the entire hearing, if that is satisfactory.

The CHAIRMAN. If you are going to get back during the hearing, we would be glad to defer and let you go on completely at one time. If you are not going to be back during the hearing, you had better proceed this morning. We hope to conclude this hearing within 2 weeks. I do not know that we can, but we hope to; so you can proceed now if you desire, and when you get back, if we are still in session, we will hear you again.

Senator McCARRAN. Very well; but I do not care to break in on the gentleman.

The CHAIRMAN. He says it will take a considerable period of time on the Colorado, and it is up to you to say. Will you be here this afternoon?

Senator McCARRAN. Yes, sir; I can be here this afternoon.

Senator JOHNSON of California. The Senator expects to leave town this afternoon.

The CHAIRMAN. Well, go ahead, then, Senator. Proceed now, Mr. Lawson will wait.

(The statement of Mr. L. M. Lawson is suspended temporarily at this time, and it will be resumed immediately following the statement by Senator McCarran.)

STATEMENT OF SENATOR PAT McCARRAN, OF NEVADA

Senator McCARRAN. Mr. Chairman and members of the committee.

The CHAIRMAN. I realize you have to be more or less anticipatory, because Mr. Lawson has not yet testified on the Colorado.

Senator McCARRAN. Yes. I propose to present a statement which I think applies to and for the great Southwest.

The Southwest, if it is ever to be reclaimed and made a place where man may sustain himself in the years that are to come for this country, must be reclaimed through the waters of the Colorado River and its tributaries. The Colorado River must not by this committee be regarded as merely a single stream. The Colorado River under this treaty and as it will be regarded under this treaty is a great river system extending from the southern Montana line through Utah, Colorado, Wyoming, Nevada, Arizona, and New Mexico. Those streams or that stream system has been the source by which and through which agriculture has been promoted and fostered in that great section.

Today, the Reclamation Bureau presents its report showing that the Colorado River now, with about 750,000 acre-feet allowed to Mexico—and that is all that Mexico has ever yet utilized; she has nearly confined herself more closely to 600,000 feet—but 750,000 acre-feet is

a very liberal allowance for her, based on her utilization of the waters of the Colorado. The Reclamation Bureau reports to this country that the Colorado River is now 1,422,000 feet short of the necessary water to supply the demands on the Colorado River system itself. With that deficiency now existing, if you please, as regards the needs and the requirements and the legal allotments of the people of the United States in the great Colorado River Basin, we are now proposing by this treaty to give to a foreign country 1,500,000 acre-feet. What is much more than that, we are coming on the verge of guaranteeing to Mexico 1,500,000 acre-feet.

Senator WILEY. Does the treaty provide a firm supply?

Senator McCARRAN. No, it cannot provide a firm supply, but it makes conditions where the flow is less by reason of the climatic condition. The flow of the Colorado River, of course, like most every other river, depends upon flood conditions and climatic conditions.

Now, Mr. Chairman, the seriousness of this problem is far more than has been presented to you. Today, the United States Government has lent to the people of the great Southwest the money for the construction of the Boulder Dam. The people are the agency that constructed the Boulder Dam. The Government of the United States only lent the money. Before the Boulder Dam could be constructed or before one bucket of concrete could be poured in Boulder Dam the money for the construction of that great dam had to be guaranteed by the people of the great Southwest. The Government of the United States refused to advance a dollar until that project was first guaranteed and the money made available, and the people of southern California and the Southwest have been carrying out and paying off that obligation.

The CHAIRMAN. They are getting value received, are they not? That is, through electricity and water?

Senator McCARRAN. They are getting value received, and we want to continue to see that they get value received. They cannot get value received in full until the water has been put to a full utilization, and the full utilization of that water is in its application to the arid and semiarid soils of the Southwest. Until that is done they will not have value received in the full sense.

We guaranteed to the people of southern California and to the people of the southern basin of the Colorado River that we would furnish water to that area, and it is the duty of the United States to see to it that its guaranty in that respect is carried out; but it cannot be carried out if we are going to furnish a foreign country 1,500,000 acre-feet, with a shortage of 1,240,000 acre-feet reported by our Reclamation Bureau at the present time.

I desire at this point in my discussion on this matter to present and have inserted in the record the latest expression of the Reclamation Bureau on this subject, showing the deficit of 1,422,000 acre-feet, before, if you please—before we allocate to Mexico 1,500,000 acre-feet, which we would do under this treaty.

Senator HAYDEN. Might I interrupt, Mr. Chairman?

The CHAIRMAN. Yes, sir.

Senator HAYDEN. I interrupt just to ask, from what report those figures are taken.

Senator McCARRAN. That is taken from the latest report, and it is not a published report as yet, of the Reclamation Bureau.

Senator HAYDEN. Is that taken from the inventory of projects asked to be made by the Senate Committee on Post-war Planning?

Senator McCARRAN. I am not certain as to that, Senator. I am not certain whether those projects have been taken into consideration in computing this matter, or not.

Senator HAYDEN. The point I wanted to make was that if the record is made up of possible projects that might be undertaken, then it is perfectly obvious that there is not water enough in any stream in the West to supply the need.

Senator McCARRAN. That is true. Based on a hurried reading of the report, which report I think has not yet been published, I take it that it is based on the water rights now existent.

Senator HAYDEN. That is very important.

Senator WILEY. You mean rights that are actually utilized?

Senator McCARRAN. Not necessarily utilized, but that are existent—either that are utilized or that would be recognized in law as being rights that should belong to the fellow on the river.

Senator WILEY. Is there any large increase in percentage of the total of those rights in recent years?

Senator McCARRAN. I suppose there might be an increase, because as time goes on, man finds it necessary to cultivate new soil, so there may have been many new applications for water. But under all of those applications, if you please, the respective States have their water authorities through which application has to be made and which authority passes on the question of the water right.

Senator WILEY. What I have in mind is whether or not these rights have been obtained, say, because of the war, or something like that.

Senator McCARRAN. No, I do not think it would be as late as that. I think they are much older than that; but that, let me say to the Senator, is largely a guess on my part, because I have not attempted to run down these water rights.

(The excerpts referred to by Senator McCarran, and presented by him for the record, is as follow:)

EXCERPT FROM LATE UNPUBLISHED REPORT OF BUREAU OF RECLAMATION

The average annual virgin flow of the Colorado River at Laguna Dam (upstream from the mouth of the Gila River) is estimated at 16,451,000 acre-feet. When present and potential depletions in the Upper Basin average 7,500,000 acre-feet a year, the average annual flow of the Colorado River at Laguna Dam would be 9,331,000 acre-feet, based on an estimated decrease in channel losses of 380,000 acre-feet. Present, future, and potential depletions of the flow of Colorado River main stream lower basin as listed in the foregoing table total 9,922,600 acre-feet exclusive of the Gila River and any allocation to Mexico by international agreement. It is therefore evident that the projects discussed will need to be modified to conform with the available water supply. Selection and modifications of projects will depend upon the relative merits of each project, final allocation of water, desires of the State concerned, and results of further investigation.

In decades of low flow such as in 1901-08 and 1931-40, the average annual flow at Laguna Dam will approximate 8.5 millions acre-feet.

For projects in lower basin.....	9, 922, 600
Average of low decades.....	8, 500, 000

Deficit.....	1, 422, 600
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It will be noted this deficit accrued without any allocation to Mexico.

Senator WILEY. This report will show definitely?

Senator McCARRAN. The report will show quite definitely.

Senator LUCAS. Senator McCarran, has the Reclamation Bureau taken any position with respect to the treaty?

Senator McCARRAN. Unless you could read a position from its report, which shows a deficit to the flow of the stream of 1,422,000 acre-feet, you can put your own construction on it.

Senator McFARLAND. I would like to clear up one matter, if I may, in regard to Senator McCarran's testimony.

Senator, you said that Mexico never had used over 750,000 acre-feet of water. Did you mean up to the present time, or up to the time of the completion of the Boulder Dam?

Senator McCARRAN. The greatest amount that Mexico has ever used is 750,000 acre-feet. Before the Boulder Dam was constructed it was about 600,000 acre-feet.

Senator McFARLAND. Mr. Lawson testified yesterday that at the present time they were using approximately, as I recall the figures off-hand, 1,800,000 acre-feet.

Senator McCARRAN. I do not know what Mr. Lawson testified to, I am sure; but I am just giving you the figures as I get them.

Senator McFARLAND. Does this proposed report show that at the present time Mexico is only using 750,000 acre-feet?

Senator McCARRAN. You mean, the report from the Reclamation Bureau?

Senator McFARLAND. Yes.

Senator McCARRAN. I do not know what it shows in that respect.

Senator McFARLAND. What I was trying to get at was where the figures came from.

Senator McCARRAN. The figures I have, the 750,000 acre-feet, are from studies made by the United States engineers in times past and reports made from such studies.

Senator McFARLAND. I understood that before the Boulder Dam was built 745,000, or some such figure, was the maximum, and then over an aggregate period of time maybe there was some 600,000, which you mentioned, but as I have understood it, since the Boulder Dam was built Mexico has increased its acreage until she is now using some 1,750,000 or 1,800,000 acre-feet. I was just trying to get the facts.

Senator McCARRAN. Let us assume for the sake of argument that there might be some correctness to that statement, which I doubt very much, and let us assume, further, as to prior rights to the river guaranteed to the Government of the United States when it went into the Boulder Dam project—

Senator McFARLAND. I was not trying to argue with you about the facts; I just wanted to be sure that I understood what you were saying.

Senator McCARRAN. All I can do is to take the reports of the respective groups of engineers that have been made.

Senator McFARLAND. Thank you.

Senator McCARRAN. Although there are many other weighty considerations involved, the opposition of the State of Nevada to the pending Mexican treaty is based first and foremost on the rank unfairness to the Colorado River Basin States of the excessive quantity of water proposed to be given to Mexico. The word "given" is used advisedly, for there does not appear to be a shred of consideration or

advantage to be received by the United States, or the Colorado River Basin States, in return.

In fact, not only does the United States give water, it gives Mexico the benefit of great and costly storage works, which must be paid for by American water and power consumers in Nevada and California. Even more, the United States is to be bound to build, at its own expense, not Mexico's, further great works, the principal benefit of which will go to Mexico.

Let us see what are the facts regarding Mexico's use, and claims to the use, of Colorado River water. In broad outline, those facts are undisputed.

The development of any irrigation in Mexico from the Colorado River was from the beginning and still is, made possible by the initiative of American farmers, as an incident to the building of American projects, by money expenditures from those farmers' pockets.

Before 1901, the Mexican lands were part of the flood plain of the Colorado River, part of the great delta of the river, traversed by many sinuous and shifting channels and sloughs, subject, annually, to inundation from the turbulent flood waters of the river, subject also to the deposition on their surface of the silt-burden of the river, which is officially calculated at 160,000 acre-feet of material per year.

In 1901, the first water of the Colorado was diverted into Mexico from a canal which was served by diversion works located in the United States. The canal extended some 60 miles through Mexico, before returning to the United States to serve the primary purpose for which it was constructed, the reclamation of the Imperial Valley in California.

To protect their own lands from floods, the American farmers were forced to build in Mexico, with their own money, several successive defense lines of levees. As these lines were extended, temporary protection was given more lands in Mexico, whereby the irrigated area in Mexico could be expanded.

Between 1920 and 1930 the acreage irrigated in Mexico rose to about 200,000 acres. Her maximum use of water in any 1 year amounted to 750,000 acre-feet, but her average for the 10-year period was 600,000. It decreased, then, to 230,000 acre-feet in 1932, but has increased again in recent years, following the completion of Boulder Dam and the conservation of the flood waters of the river in Lake Mead.

The crucial fact is that even in the early twenties the low summer flow of the river was being diverted and consumed in its entirety. The chief reason why Mexico's average was during that period less than 750,000 acre-feet, was that in the summer, when it was most needed to mature crops, there was not enough water in the river. Again, taking the period from 1930 to this date, had Boulder Dam not been built, it would have been impossible for Mexico to obtain, even through the American diversion works, as much as 750,000 acre-feet in many years.

So it may be positively said that without Boulder Dam Mexico would not have had a dependable water supply for as much as 200,000 acres. Any amount she did receive would be drawn from a river which fluctuated in volume between wide limits, with no assurance from year to year or from month to month whether her crops would be destroyed by flood or be parched by drought.

Mexico's water, as stated, was dependent upon being diverted by means of works located in the United States. She was legally forbidden by treaty, since 1853, from blocking navigation by American vessels through construction of a diversion dam in her own territory. Even without this legal bar, it was and is impracticable, by reason of physical conditions, such as the wandering of the river's channels, to construct such a dam. On the other hand, no treaty provision required the United States to keep the river navigable. That obligation rested only on Mexico.

These facts were well known when plans for the building of vast water conservation works on the Colorado River were first brought under consideration by the United States and they led directly to the taking of certain well-advised and crystal-clear official steps.

One of the first of these was the unanimous adoption, at Denver, in August 1927 (Hearings, House Committee on Irrigation and Reclamation on H. R. 5773, pt. 2, p. 202, January 1928), by the Governors of all seven of the Colorado River Basin States, of the following memorial [reading] :

To: The Honorable Calvin Coolidge, President of the United States of America, and the Honorable Frank B. Kellogg, Secretary of State.

Whereas the prosperity and growth of the Colorado River States, namely, Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, are dependent upon present and increasing use of the waters of the Colorado River for domestic, agricultural, industrial, and other beneficial purposes, and the need of many regions of these States for additional water from that source already is extremely acute and will become increasingly so; and

Whereas said river is an international stream between the United States of America and the United States of Mexico with all of the water supplying the same coming from the United States of America, and the United States of Mexico is rapidly extending the irrigated area supplied from said river within her own boundaries, and great storage projects within the United States of America are in existence and in contemplation; and

Whereas said United States of Mexico, although having no strictly legal right to a continuance of the river flow for beneficial purposes, nevertheless may hereafter make some claim thereto; and

Whereas under acts of Congress of May 13, 1924, and March 3, 1927, a commission of three has been appointed by the President to cooperate with representatives of the United States of Mexico in a study regarding the equitable use of the waters of the Colorado River and other international waters for the purpose of securing information on which to have a treaty relative to international uses :

Now, therefore, and to the end that no unfortunate misunderstanding may arise between the United States of America and the United States of Mexico, and that no false encouragement may be given to present or future developments along the Colorado River in the United States of Mexico, we, the Governors of all seven of the Colorado River States, with our interstate river commissioners and advisers in conference assembled in the city of Denver on this 26th day of August 1927, do hereby in great earnestness and concern make common petition that a note be dispatched to the Government of the United States of Mexico calling attention of that Government to the fact that neither it nor its citizens or alien investors have any legal right as against the United States of America or its citizens to a continuance of the flow of the Colorado River for beneficial purposes and that the United States of Mexico can expect no such continuance except to the extent that, as a matter of comity, the two Governments may declare hereafter by treaty and that especially under no circumstances can the United States of Mexico hope to use water made available through storage works constructed or to be constructed within the United States of America, or hope to found any right upon any use thereof. We believe, too, so great are the water necessities of our States that any adjustment made with the United States of Mexico concerning the Colorado River should be based upon that river alone. We further earnestly suggest that a special commission be appointed from citizens of the Colorado River States, or that by act of Congress that present com-

mission already referred to be enlarged to contain two additional members to come from the Colorado River States.

It is only by such precautionary measures, promptly taken, that our seven States with their millions of people can be given a basis of economic certainty, adequate protection, and a feeling of security pending the negotiation of an early treaty between the two Governments.

And your memorialists will forever pray.

GEORGE W. P. HUNT,
Governor of Arizona.

C. C. YOUNG,
Governor of California.

WILLIAM H. ADAMS,
Governor of Colorado.

F. B. BALZAR,
Governor of Nevada.

RICHARD C. DILLON,
Governor of New Mexico.

GEORGE H. DERN,
Governor of Utah.

FRANK C. EMERSON,
Governor of Wyoming.

Senator HAYDEN. Did the then Secretary of State under Mr. Coolidge make the representations requested by the governors to Mexico?

Senator McCARRAN. I have no note of that. It may be true, but I have no note of it.

Thus, Mr. Chairman, it is beyond doubt that the seven States agreed that Mexico should have no right to waters conserved by American energy and expenditure behind Boulder Dam, and also, that they had a fear that by an ill-advised treaty, that principle might be disregarded. That fear was soon to be set at rest by the Congress of the United States.

On December 10, 1928, the Boulder Canyon Project Act was being debated on the floor of the Senate, 4 days before it was finally adopted by the Senate. On that day my colleague, the late senior Senator from Nevada, Key Pittman, after referring to the fact that there is no site for a storage dam on the Colorado River in Mexico said to the Senate [reading]:

The natural flow of that river today will not irrigate any more than 240,000 acres of land in Mexico. That is all it will irrigate. I think it is the recognized policy of Congress—certainly it is recognized in the very opening paragraph of this bill—that the comity between nations does not call upon the United States to furnish to Mexico any water that has accumulated in the United States through expenditures made by the United States. If this dam is never built, if there is no water impounded on that river, Mexico a thousand years from now will be where Mexico is today with regard to irrigation in Mexico.

That was Senator Pittman, afterward the chairman of this committee, speaking on that occasion.

The Senator referred directly to the terms of section 1 of the bill, and said [reading]:

The committee added those words "within the United States" for the very purpose of declaring the policy of Congress and of this Government if and when this legislation becomes a law. There is no question what Congress will mean by that if they pass the bill. They will mean exactly the same thing those governors desire.

The Senator there referred to the resolution adopted by the 7 governors, which has been mentioned.

He continued :

We will assume, however, as a violent conclusion, that the Secretary of State of the United States would enter into a treaty with Mexico, giving them many times the amount of water to which they were entitled, from the natural flow of this river, and, to do so, should attempt to injure some vested rights in this country, to take away from people the use of water they had been legally using for irrigation.

That treaty would have to come to this body for ratification before it would ever be a treaty. It would take two-thirds of this body to ratify it. It is totally inconceivable, if we pass this bill, which states that all the impounded water above the natural flow shall be used exclusively within the United States, that they would ratify any such treaty. They would have just as much right to say to Mexico then, as they would have if we would pass just such a resolution as the Senator from Utah has read :

"You never had any right under the comity of nations to the stored waters of our country. Your rights were solely limited to the natural flow and the use to which you put the natural flow. Then, in addition to that, the Congress of the United States passed a public act in which they stated to you and the rest of the world that all of this impounded water was to be used exclusively in the United States. You cannot complain that you are now injured because you took no notice of it."

There is not a chance in the world of Mexico ever getting anything except that which she is morally entitled to under the comity of nations, and we know what that is.

Later, Senator Pittman described Mexico's situation in one concise sentence (p. 468) :

I think, also, that under the comity that exists between nations the only water that Mexico could claim would be water that she has appropriated from the natural flow of the stream, and that she could claim none of the benefits of the water increased by our impounding works.

The Senator's statements were accepted by the Senate without a dissenting voice. They settled the intent and meaning of the law. From the day of the approval of the Boulder Canyon Project Act it has been the law of the United States that the floodwaters conserved by Boulder Dam should, in the express language of the act, be reserved for "beneficial uses exclusively within the United States." And until February 3, 1944, no American citizen has been so bold as to imagine that the Government of the United States would negotiate, or sign, or submit to the United States Senate a treaty by which that law would be flouted and a large share of the waters conserved and in effect created by Boulder Dam would be made a free gift to a foreign nation.

During 1928 and 1929 a treaty commission appointed by the United States and Mexico was laboring to reach a treaty on the Colorado River and Rio Grande. The American section was composed of most eminent and thoroughly experienced engineers. Upon finding itself unable to agree with the Mexican section, it filed a full report (H. Doc. No. 359, 71st Cong., 2d sess.) in which (at pp. 45 and 46), it presented the facts as follows :

The protection now afforded irrigated-lands from floods is by levees, which involves a large yearly expenditure, and is attended by such hazards that the limits of safe and profitable development have almost, if not quite, been reached. Furthermore, the fluctuations in discharge, which, over a period of years, have ranged from 220,000 cubic feet per second, at high water, to 1,200 cubic feet per second, at low water, renders any extension of the irrigated area, on the lower Colorado, without regulation, both hazardous and undesirable. It is the low-water flow of this river which now determines the safe and profitable limits of irrigation. The losses from shortage of water in the river have, in a single year, amounted to millions of dollars to the Imperial Valley in the United

States and Mexico, and have caused the authorities of the Imperial irrigation district to refuse water to additional areas until by regulation, the low-water discharge of the river can be increased. The United States is, therefore, preparing to build works, to regulate the flow of this river, of greater size and cost than any of a similar character heretofore undertaken by any country to end a situation which may in any year involve an appalling disaster to the people of this region, in both countries.

The report (at p. 47) thus states the American section's conclusion :

Under these conditions, conceding to Mexico a definite quantity of the waters of the stream equal to the maximum amount thus far delivered in any one year, and in addition lessening the hazards under which it is now used, will, it is hoped, be regarded by the people of both countries as a just and generous settlement of this question.

At another point, the report states (pp. 65, 66) :

Were the flow of the Colorado River sufficient in quantity to supply the various sections of both countries desiring its waters for future development, our task would be easy and simple. Unfortunately the demands are far beyond the volume which the river can provide, and these demands are so far reaching and of so great importance to the people of the United States that they are now preparing to spend \$400,000,000 in order to secure a full utilization of such water as the river carries. It does not appear that the United States is required, even in proof of its friendship and good wishes for Mexico to limit its own growth and abridge the comfort of its own citizens that a neighboring nation may be correspondingly benefited. Neither does it seem an act of neighborly kindness to itself appropriate the water of the river to such an extent that people who have developed lands in Mexico and placed them under cultivation would be deprived of water and the lands forced back into wilderness. To avoid such a condition and to prevent loss to the holders of land in Mexico, the United States section believes that the commission should recommend to the Governments of the two countries that the amount of water to be allotted to Mexico each year be the largest amount which has to this time been given to that country in any one calendar year. This quantity is practically 750,000 acre-feet. This quantity of water will permit of the undiminished continuance of the greatest agricultural activity which has yet occurred in this part of Mexico. The United States section regrets that it cannot see its way to recommend a larger amount to Mexico, but believes that it is going as far as it properly can when it saves the existing users of water in Mexico from loss, and feels that if it recommended an additional amount it would be recommending an injury to its own country. The section, in taking this action, feels that it is as liberal as any country has been or as the Supreme Court of the United States has been in determining questions of this character between the States. The section further invites attention to the fact that for an indefinite time in the future the amount of water entering Mexico will be in excess of 750,000 acre-feet.

Commenting upon this subject in 1934, another board of eminent Government engineers found (H. Doc. No. 395, 73d Cong. 2d sess., p. 337) :

Another reason for the American limitation of the Mexican rights was that the limits of safe and profitable development in Mexico had already been reached. Changes in conditions wrought by Boulder Dam, built at the expense of the United States, ought not deprive the United States of the stored water through increased use in Mexico. The benefits of that expenditure belong to the United States.

There has been no change in the law since 1929. There has been no change in the physical conditions, except that the United States has now built vast conservation works on the river, and except that the total water supply of the river is now realized by the experts of the Bureau of Reclamation to be even less than it was estimated in 1929. Surely, if an allotment of 750,000 acre-feet per annum was "just and generous" to Mexico in 1929, an allotment of twice, or more than twice,

that amount in 1944 can be nothing but sheer donation of one of the most precious natural resources of the United States.

Another subject deserves the most serious consideration of the committee.

The Boulder Canyon project did more than merely to provide the building of Boulder Dam. It authorized the Secretary of the Interior to sign, on behalf of the United States, contracts with municipal corporations, and others for delivery of water to be served by the dam and for delivery of power to be generated by falling water. In fact, it required the Secretary to procure such signed contracts to repay the cost of the works, with the belief before a dollar should be appropriated to start the construction.

The Secretary did procure such contracts. He entered into contracts with the States of Nevada and Arizona and with a number of cities and private agencies in the State of California. Every one of these contracts was signed by a State or other agency in full and implicit reliance upon the integrity of the United States and in the full belief that the United States would never dishonor its contracts.

Senator JOHNSON of California. And you may add, may you not, that the United States, in building any other project in the future, never exacted that particular portion in relation to the contract. It was only in respect to the Boulder Dam that the United States insisted that before a single shovelful of earth was there should be firm contracts in the hands of the Secretary of the Interior which would pay for every dollar expended thus. Is that true, is it not?

Senator McCARRAN. That is true, Senator; and those contracts were signed before there was a rock moved on the Boulder Dam. The United States and my State and, I think, the State of Arizona—I was corrected on that if I am not right—your State and my State entered into these contracts. They stood principally for water and for power and now we are about to turn that all over to a citizen of a foreign country who shall become the czar of that water and that power. I say, the czar of that water and power because there are two of them, one of that commission that will control the working out of this treaty and the other is a citizen of Mexico and the other is a citizen of the United States. The gates of the Boulder Dam cannot be moved, elevated up or down, if this treaty becomes effective without the head gates or the irrigating works belonging to the most important citizen could not be moved unless by advice and consent of a majority of the State of Mexico acting as a member of this commission.

As I said, every one of those contracts was signed by a State or other agency in full and implicit reliance upon the integrity of the United States and in the full belief that the United States would never dishonor its contracts by disabling itself from performing them. Every one of these contracts was entered into in the full belief that the policy of the United States, declared by Congress in section 1 of the Project Act, was that the benefits of Boulder Dam should be enjoyed "exclusively within the United States."

Senator LUCAS. Is that included in the contracts?

Senator McCARRAN. In the act.

Senator LUCAS. It is included in the act; but is any portion of it included in the contracts?

Senator McCARRAN. That quoted language, you mean? I do not know that. I would not expect it to be, because the law would become a part of the contract.

Were we not confronted with the present draft treaty, it would be as inconceivable to me as it was to Senator Pittman that the Executive would ever submit to the Senate a treaty by which it injured its own States and communities in order to gratuitously enrich a foreign nation. It is still totally inconceivable to me, as it was to Senator Pittman, that the United States Senate will ever advise and consent to such an unjust and unfair and un-American treaty.

Senator JOHNSON of California. But you now find a different situation presenting itself, do you not, in the presentation of this treaty?

Senator McCARRAN. Yes; and this is the very thing that Senator Pittman dealt with in his remarks in the Senate when he said that he could not believe that the Senate would ever ratify such a treaty.

Senator JOHNSON of California. Well, neither could I, and neither could you; but here the Senate of the United States is preparing to present and pass a treaty that is at variance with those stipulations.

Senator McCARRAN. Well, it is worse than that. You are about to pass a treaty, if you pass this treaty, that will put Mexico, by its citizen who is a member of that Commission, in charge of every drop of water that goes into every garden spot on the waters tributary to the Colorado River, because the Colorado River is a river system and has been so regarded and treated. It is today, with the Boulder Dam, treated as a river system; and in acts that have been passed since for the management of Boulder Dam there have been large amounts of money set aside from the benefits of Boulder Dam to make investigations in the upper-basin and the lower-basin States that furnish the tributary waters to the Colorado River.

Senator JOHNSON of California. Do you know whether the stipulations as to the water were carried out in full by the States that made those contracts?

Senator McCARRAN. I would say this: I am not advised as to the amount of money which southern California spent, but she has built one of the greatest aqueducts in all the world, carrying water of the Colorado River to southern California.

Senator JOHNSON of California. Of course, that is a matter that is immaterial when you consider that you want to do a job for a foreign country.

Senator McCARRAN. Well, California is not a foreign country yet.

Senator LUCAS. Senator McCarran, I confess that I am not clear on the statement that you made as to how the citizen of Mexico controls the Boulder Dam. Would you mind elaborating upon that?

Senator McCARRAN. Under the provisions of this treaty, the Boundary Commission is made the administrative agency. That Commission by the act of 1885, I think it is, is composed of two members, one a citizen of the United States of Mexico, and the other a citizen of the United States of America. They have equal rights. The treaty provides that they have equal rights in this way: The American citizens having rights of supervision over in Mexico, and the Mexican citizen having rights of supervision in the United States. So what I meant to develop in the thought that the Senator picked on was this: That a citizen of a foreign country, one member of that Commission, will be

as powerful on the Colorado River system as the citizens of the States, who is a member of that Commission.

Here let it be noted that the United States does not pay for Boulder Dam. There has been a misconception of many people. The United States Government does not pay for it and did not stand the cost of Boulder Dam.

Senator WILEY. The Government furnished the money for Boulder Dam. Senator McCARRAN. It is only advancing the money for the dam. Senator WILEY. At what rate? What interest is paid on the money?

Senator JOHNSON of California. Four percent.

Senator McCARRAN. I think it is less than 4 percent.

Senator DOWNEY. I think it is 3 percent, if I may say so.

Senator McCARRAN. Whatever may be the percentage of the States of Nevada and California and the lower States, the Government guaranteed the repayment of that money. The cost of the dam and a substantial part of it has been repaid, from the payments of power and water. I may say that in the States of Nevada and California the great bulk of the payments come from the power consumers of the State of Nevada. The power consumers of the State of Nevada are paying 18 percent of the power revenues. What justice is there in making an outright gift to a foreign country of the power which is not paid for by the United States but which is paid for by certain States and communities within the United States? It is a national object to be obtained, which justifies a donation, let that donation come from the National Treasury or from the pockets of the people of the respective States.

The CHAIRMAN. Senator, they get the power. You are paying for it. They get the power.

Senator McCARRAN. Certainly; but they pay for it.

The CHAIRMAN. Yes; but if they could get power at no cost, I assume.

Senator McCARRAN. I cannot get the efficacy of your argument. I suppose that to you it is a question of economy.

The CHAIRMAN. The Senator stresses the fact that the United States did not do anything about Boulder Dam except to loan the money. It advanced all the money at the insistence of the people of Nevada, who put on a campaign here, the like of which has never been seen, to get a dam in that area. Of course, power is being produced, but the people are using that power, paying for it as they receive it.

Senator McCARRAN. Yes; and paying the Government the money with interest on it.

The CHAIRMAN. I understand that.

Senator McCARRAN. And also developing this country. I suppose, is understood also. We are developing the power of America with the money of the citizens of this country.

Senator HAWKES. May I ask a question of the Senator from Nevada?

The CHAIRMAN. Yes.

Senator HAWKES. Is it not a fact that the loaning of money for Boulder Dam and the repayment of it through power contracts, and so forth, stands almost alone or by itself from the building of dams by the United States?

Senator McCARRAN. It is the first and only instance of which I have any knowledge where the conditions were so imposed.

Senator HAWKES. It is the only case where it has been on a business basis, where the United States really has done something for a section of the country and yet get this money back?

Senator McCARRAN. It gets its money back and is assured of its money before it puts a dollar in. There is no hazard.

Our duty to Mexico calls for nothing more nor less than fair treatment.

Senator MILLIKIN. That very scheme is the basis of all our reclamation projects.

Senator JOHNSON of California. What is that?

Senator MILLIKIN. I say, the scheme of reimbursement of cost is the heart of all our reclamation projects.

Senator DOWNEY. In the interest of accuracy, I must say that in the usual reclamation project the Government advances money and is repaid only the principal, not any interest, which over a period of 50 years amounts to more than the principal. But the Southwestern States are obligated to repay the principal plus interest and to keep this whole project in good condition, to give it to the United States at the end of 50 years, and likewise to contribute other very large sums.

Senator MILLIKIN. I accept the correction as to the interest.

Senator McCARRAN. May I continue, Mr. Chairman?

The CHAIRMAN. Yes.

Senator McCARRAN. Our duty to Mexico calls for nothing more nor less than fair treatment. We are not obligated to supply her with a resource created by the money and energy of our people. Mexico is entitled, under the most favorable stretch of international comity, to no more than an annual delivery of 750,000 acre-feet of Colorado River water. That was the maximum quantity she ever used, or ever could have used, before the construction of the Boulder Dam. The control of the river effected by the dam is of exceedingly great value to Mexico.

The CHAIRMAN. You refer to the amount of water that Mexico used prior to the construction of Boulder Dam. Have you any figures as to how much water was used in the United States prior to the construction of Boulder Dam?

Senator McCARRAN. I have not.

The CHAIRMAN. Have you any source from which you could get that?

Senator McCARRAN. I suppose I can get it from the Reclamation Bureau. I should be very glad to assist you in getting it, but at this time I do not have it available.

Senator JOHNSON of California. In answer to the Chairman's question, you need only ask one of the Assistant Secretaries of State.

The CHAIRMAN. I am not asking the Assistant Secretary of State; I am asking Senator McCarran, who appears here as being posted on these things. If I have offended the Senator, I am sorry.

Senator JOHNSON of California. I thought you sought the information.

The CHAIRMAN. I do.

Senator JOHNSON of California. You could obtain it very readily from any of these gentlemen from the Office of the Secretary of State.

The CHAIRMAN. I suppose we would ~~have~~ to go there. ~~Se~~ McCarran does not seem to know.

Senator McCARRAN. May I just answer your question? Undoubtedly, Senator, many more acres of land—thousands more acres of land—have been put into reclamation in the United States since construction of Boulder Dam.

The CHAIRMAN. My question was directed to the time prior to construction of Boulder Dam, and my question was, How much water was then appropriated and used by people within the United States?

Senator McCARRAN. All I can say—and it would be a good answer—is all the Imperial Valley, whatever acreage that amounts to.

Senator DOWNEY. May I intervene with a comment?

The CHAIRMAN. Yes, Senator Downey.

Senator DOWNEY. I think the historical fact is undeniable prior to the building of Boulder Dam the upper basin States—four upper basin States—were using from 2 to 2½ million acre-feet of water a year, and the lower basin States were using from 4 to 5 million acre-feet yearly. Mexico was using about 750,000 acre-feet.

I should like to add this comment: That it is admitted that the use in the upper and lower basin States had totally absorbed the whole run-off of the river when we needed it for irrigation, and the State engineer of Colorado had expressed in a public pamphlet that the whole flow of the river had been exhausted by these appropriations and that we might expect from then on losses between different appropriations.

The CHAIRMAN. How did Mexico get her 750,000 acre-feet of it had been appropriated in the United States?

Senator DOWNEY. I did not say that it had; I said that Mexico used a maximum in low years of 750,000 feet that came down. That was the maximum she could get after Colorado, Wyoming, Utah, Mexico, and California took out the water.

Senator McCARRAN. The control of the river effected by the treaty is of exceedingly great value to Mexico. She necessarily obtains control and seasonal regulation for irrigation, for which she is doing nothing. Her lands, canals, and towns, equally with those in the United States, are now forever protected from destruction by flood. The ability to get water when it is needed for the culture of crops makes that water worth in money from the crops returned of greater value, making the land of greater value by reason of the stabilization of the flow.

With all this in mind, careful as we must be not to harm Mexico and to accord her that which is morally due, we must not suffer her at the expense of our own people. We must not give away, without return, the natural resources without which the great South would be barren and worthless. Above all, we must not allow the United States to break its solemn contracts with its own State and its own people, on the face of which they have committed themselves and their posterity, if you please, to the expenditure of many hundreds of millions of dollars.

Mr. Chairman, I am not going to take up the time of the committee to read them, but resolutions have been passed by various groups in the upper and lower Colorado basins. The Colorado Commission of the State of Nevada passed resolutions covering

entire subject against this treaty, and I desire that it be inserted in the record as a part of my remarks.

The CHAIRMAN. We shall be very glad to have it inserted.
(The resolutions referred to are as follows:)

THE PROPOSED COLORADO RIVER MEXICAN TREATY

In response to requests from the press for a public statement from the Colorado River Commission of Nevada relative to the proposed treaty with Mexico for division of the waters of the Colorado River, the Tijuana River, and the Rio Grande, the following is submitted as reflecting the position of that commission, which is entrusted with the responsibility of administering the State's interests in the Colorado River.

The possibility of a trade with Mexico, whereby more Rio Grande waters might be made available to the United States in return for greater use of the Colorado, was feared by the Colorado River Basin States, but negotiations of this sort have been denied by the Department of State. There are three elemental reasons why the Colorado River Commission of Nevada opposes this treaty, which are:

1. The treaty effects a surrender of rights of the interested States to properly control and administer the Colorado River and is a further encroachment by the Federal Government on the authority of States to develop, use, and regulate their own water resources.

2. The quantity of water to be delivered to Mexico is much in excess of the amount used prior to construction of Boulder Dam and related works, and is more than the quantity which Mexico has either a moral or an international right to demand.

3. The Government has no right, by means of this treaty, to place in jeopardy or to make more difficult of fulfillment the contracts for water and power its States have made with it in good faith and relying upon the validity of the Colorado River Compact and the Boulder Canyon Project Act.

Commenting upon these reasons: The treaty proposes to establish a new political river control to be known as the International Boundary and Water Commission, which will enforce the terms of the treaty. This Commission will have status as an international body and consists of two sections, one Mexican and one United States, each of which shall be headed by an engineer commissioner. These two men shall have diplomatic privileges for work in each country. It is a joint International Commission with absolute and complete control of the river for enforcement of delivery of water to Mexico, without reference to the affected States, or to the Congress, in making rules and provisions for control and administration of Colorado River waters. The Commission may authorize the construction of dams, weirs, diversion works, may regulate existing storage reservoirs and diversions at will, and its acts are subject to no review by any Federal or State agency while this treaty is in effect. It is hard to believe that the United States Government will knowingly grant such unlimited and unrestricted authority over the water rights of the States in the great empire comprising the Colorado River Basin to a couple of officials, yet that is what this treaty proposes to do.

We sympathize with California, which has the most to lose under this autocratic plan. California financed, entirely alone, the great Boulder Dam and its vast appurtenant and related works. Long prior to the emergence of the New Deal, California entered into firm contracts with the United States for complete use of the power over a period of 50 years to repay all costs with interest. The Colorado River Compact for division of water at Lee's Ferry was first worked out to determine and safeguard the quantity of water for use by States in both the upper and the lower basin. Under this proposed Mexican treaty California's ability to fulfill its legal obligations to repay and make good on its contracts is in danger, for neither that State, nor the United States, will have final control of storage and diversions. That power will be in the hands of the joint Mexican-United States Commission, and 1,500,000 to 1,700,000 acre-feet must be delivered annually to Mexico, regardless of whether low flows or varying and diversified irrigation demands deplete the minimum quantity necessary to irrigate lands reclaimed in the United States, or if arbitrary regulations for storage and diversion decrease the available power contracted for delivery to the people. Although the treaty contains a provision that in times of "extraordinary" drought deliveries to Mexico will be proportionately curtailed, this

does not alter the fact that at all times excessive water is guaranteed water that will be needed for the present use and future development of our own country.

Nevada may be injured by unlimited control of the river by this International Commission. Nevada and California together, through purchase of Boulder Canyon project power, are paying for Boulder Dam and other river improvements. Nevada has entered into various contracts with municipalities and companies to supply them with firm power from the Boulder Dam plant. Under the Boulder Canyon Project Act, Nevada has a right to 18 percent of the firm power, but if Nevada does not use it must. In case of power shortage, Nevada must take its proportionate share. Failure to supply the power from any cause, of which depletion of water supply for generation in order to comply with Mexico's irrigation might be one cause, would injuriously affect Nevada State contract with the Nevada public. Nevada is in the Boulder Dam power business to the tune of \$463,000 per year, for the benefit of the people of the State at the lowest cost to them. We propose to take every reasonable precaution for the protection of that business.

Arizona, although having a withdrawal right identical with Nevada, to have no interest in Boulder Dam power, and therefore has no special and moral responsibility as Nevada. Arizona, although listed as beneficiary of the treaty as written, will nevertheless be a loser if there is a water shortage particularly after full use is made of the upstream allotment through uses and out-of-basin diversions. Press articles and engineering reports from Arizona indicate an element in that State is opposed to the Boulder Canyon project. Arizona has gone on record as being in favor of it. Under the State administrations Arizona fought the Colorado River Compact. Boulder Canyon Project Act throughout the many years the lower river compact was being promoted and refused to ratify the seven-State Colorado River Compact. However, Arizona recently ratified the Colorado River Compact. Arizona has since obtained Bureau of Reclamation aid in preliminary surveys for a large dam building and reclamation plans. These projects have a total estimated cost of \$946,000,000. Only very recently Arizona entered into a contract with Secretary Ickes for the total 2,800,000 acre-feet of water under the authorized but unexecuted tri-State compact for Nevada, Arizona and California. Adoption of this Mexican treaty will entail the surrender of State control on the Colorado River. It also endangers the interests of Nevada and California under Federal contracts made for the benefit of their people. The upstream States and Arizona should not overlook their own contract obligations, or the principle of reasonable compensation for protection of investments in these two States.

Provision was made in the original Boulder Canyon Project Act that rates that would amortize the project in 50 years, pay Arizona a combined amount that would amount to approximately \$1,000,000 per year in interest lost by surrender of the power site to Uncle Sam (37½ percent of the interest earned by rates as then fixed, and \$25,000,000 allocated to flood control).

The Boulder Canyon Project Adjustment Act, which was designed to lower power rate for the power allottees, among other things deferred payment and interest on the flood-control item until after 1987, reduced the rate from 4 to 3 percent on Government advances and fixed the combined payment to Arizona and Nevada at \$600,000 annually without reference to future uncertainty as to surplus. This legislation was designed to effect a reduction in rates which would be of much benefit to the people of California who alone use and pay for the power, but this expected benefit was offset by a demand from the upstream State for a portion of the revenue to be paid from the project, before those States would support the adjustment act. The adjustment act asked for \$500,000 per year of the project income to be paid to them for Colorado River developments upstream. This demand was granted; the adjustment act was passed; and the increase in rates to provide them with interest is now being paid to the people of California and Nevada.

The upstream States, by now advocating control of the river by the International States-Mexican Commission, whose acts are not subject to review by the courts and also by advocating a gift to Mexico of water made available in the basin by Federal money which California and Nevada must pay, it is more difficult for these States to supply them with the very funds needed for upper Colorado River surveys and developments. Sound reason

indicate that they should help the two States which are alone burdened with the responsibility of providing them with this revenue.

At a meeting of the Colorado River Basin States Committee of Fourteen held at Reno, Nev., in July 1944, it was shown by statements and estimates of upstream future water consumption submitted by engineers of the United States Bureau of Reclamation and the United States Office of Indian Affairs that contemplated uses upstream exceed the compact allotment. The people of the entire basin should be aroused by the fact that they are in danger of giving away annually 750,000 acre-feet of very valuable water, as well as present rights of control and regulation of the Colorado River, forever.

We hold that Mexico is not entitled to assured delivery of more water than the natural unregulated flow of the river would have irrigated in Mexico before the construction of Boulder Dam, which is probably less than 750,000 acre-feet. This treaty calls for a practically unqualified delivery of from 1,500,000 to 1,700,000 acre-feet of firm water per year.

During the debate on the Project Act in 1928 in the Senate, Senator Key Pittman stated, " * * * The natural flow of that river (the Colorado) today will not irrigate any more than 240,000 acres of land in Mexico. That is all it will irrigate. * * * If this dam is never built, if there is no water impounded on that river, Mexico a thousand years from now will be where Mexico is today with regard to irrigation in Mexico."

The American section of the International Water Commission, United States and Mexico, in a report to Congress in 1930 subscribed to by Elwood Mead, Director of Reclamation General Lansing H. Beach, United States Army, retired, and W. E. Anderson of Texas: " * * * The location of the Mexican land at the lower end of the river gives it for all time control and use of all the surplus flow. Both ability to use this surplus and also relief from the chief danger from destructive floods, will be promoted by the construction of Boulder Dam. The proposal of the American section to recommend recognizing as a reasonable equity an annual use of 750,000 acre-feet, this being the greatest amount heretofore used in 1 year, is all that it is believed the United States should concede."

House Document 395, Seventy-third Congress signed by W. J. Barden, Colonel Corps of Engineers, Board of Engineers, Rivers and Harbors; Thomas M. Robins, Lieutenant colonel, Corps of Engineers, Division Engineer, Pacific Division; Elwood Mead, Commissioner of Reclamation; W. N. White (for O. E. Meinzer, Chief, Ground Water Division, United States Geological Survey), S. H. McCrory, Bureau Agricultural Engineering, and T. W. Norcross, Forest Service, bears this statement:

" * * * Another reason for the American limitation of the Mexican rights was that the limits of safe and profitable development in Mexico with an unregulated river had already been reached. Changes in conditions wrought by Boulder Dam built at the expense of the United States ought not to deprive the United States of the stored water through increased use in Mexico. The benefits of that expenditure belong to the United States. In plans that are being made for use of Boulder Dam storage no special provision has been made for Mexico. * * *"

Royce J. Tipton, consulting hydraulic and irrigation engineer employed by the Colorado State Water Conservation Board, is reported by the press to have stated to a meeting of the Utah section, American Society of Civil Engineers at Salt Lake City on July 13, 1944, that the amount of water allocated to the upper and lower basin States, respectively, would not be affected by the treaty either in average or low-water years. This is just as valid a statement as to say that if 10 percent is charged against a man's total income per year, his gross income will remain the same. That man is concerned with net income, and it makes a great difference whether he is charged 10 or 5 percent. That is about what the difference between 1,500,000 acre-feet and 750,000 acre-feet against a total of 15,000,000 acre-feet amounts to. Mr. Tipton is also quoted as having stated that the main opposition to the treaty came from California interests, but he was not critical of such opposition because "they had problems of their own making." That may be partly true, but Uncle Sam is also a party to these problems which are water and power contracts concerning Boulder Dam and Colorado River water, with financial obligations running into vast sums. The State of Colorado, and the other upstream States have no financial obligations in this matter. They merely receive money earned by California and Nevada, from Colorado River contracts.

The upstream States choose to support the treaty, upon the assumption that Mexico's water use will become progressively greater as years go by, and that

in the course of time a settlement will have to be made for more water under the existing Pan-American Treaty of Arbitration of 1929, possibly for as much as five or six million acre-feet per year.

The assumption that the United States will resort to arbitration that will dry up her irrigated lands, curtail irrigation of new lands for which Government money has been spent, and perhaps force California and Nevada to default on contracts entered into under the security of the Boulder Canyon Project Act and the Colorado River Compact, is in our opinion very remote. But whether remote or not, we are willing to rest our case with the President and the United States Senate as to whether we shall be deprived of water we have developed and have our right determined by an international arbitration on which the United States will be outnumbered and outvoted by the delegates.

Herbert Hoover, when Secretary of Commerce in 1923, answered questions of him by Representative Carl Hayden, of Arizona, at that time concerning the proposed Colorado River Compact, one of which was as follows, and this shows clearly what the position of the interested parties was regarding disposal of water to Mexico. The question asked was:

"Is there any possibility that water stored by dams in the tributaries of the Colorado River in Arizona, such as Roosevelt Reservoir on the Salt River, San Carlos Reservoir on the Gila, might under the terms of such a treaty be released for use in Mexico to the injury of the water users of the project whose benefit such dams were constructed?"

Mr. Hoover's reply in part was:

"I cannot conceive of the making or the ratification of a treaty which would have such an effect. If it were possible to believe that the Federal Government would treat its own citizens with such absolute disregard of their proper rights, I presume that they would receive ample protection, even as against the Government, under the provisions of the Federal Constitution."

No doubt the Department of State is eager to win Mexico's good will, in suit of our "good-neighbor policy," but in supplying our southern neighbor with aid in money and materials we must draw the line at parting with the natural resources of our country.

Our duty to Mexico calls for nothing more or less than fair treatment; we are not obligated to supply her with a resource created by the money of our country. Mexico is entitled to no more than an annual delivery of 750,000 acre-feet, which is the maximum quantity of water used or ever could have been used from the Colorado River before the construction of Boulder Dam. The control of the Colorado River effected by Boulder Dam is of exceedingly great value to Mexico as a means of seasonal irrigation regulation and flood control, for which she is charged no more than the cost of Her irrigated lands, diversion works, and canals are now forever protected from damage or destruction by floods, equally with those within the United States. The great structures which accomplish this were entirely financed and built by the people of the United States, and no portion of the benefits to be derived from them should be voluntarily given away by treaty.

RESOLUTION No. 2

Whereas at the call of the Honorable E. P. Carville, Governor of the State of Nevada, there has assembled at Las Vegas, Nev., on the 12th and 13th of January 1945, a conference of delegates of actual water users of the six States of Arizona, California, Colorado, Nevada, Utah, and Wyoming, including representatives of over 77 percent of the water consumed in the Colorado River Basin; and

Whereas the waters of the Colorado River constitute one of the great natural resources of the United States; and

Whereas the total water supply of the Colorado River is not sufficient to meet the requirements of known feasible projects in the United States, even if there were no allocation to Mexico and, therefore, for every acre of land irrigated in Mexico from the Colorado River, an acre in the United States would perpetually remain barren desert; and

Whereas upon full consideration of the pending treaty between the United States and Mexico, relating to the waters of the Colorado, it is the opinion of this conference that the treaty betrays the best interests of the Colorado River Basin and of the United States. This opinion is based upon the following grounds:

1. The treaty would give to Mexico without any consideration in return for it, a guaranteed first right to more than twice her just share of Colorado River water and this largess would cast a cloud on all vested water rights on the river in the United States.

2. It would guarantee to Mexico a fixed amount from the surface flow of the river, without regard to the fluctuations of the available supply, which is wrong in principle, and, on the other hand, it would totally disregard the underground flow of the river, which Mexico would develop and use, although that is a part of the waters of the river and should be so treated.

3. It would donate to Mexico rights in water conservation works in the United States, which must be paid for by American water and power users and which are necessary to make available the water to be delivered to Mexico, and would therefore subsidize water users in Mexico at the expense, not of the United States but of the citizens of particular communities in the United States.

4. It would permit Mexico to share in revenues from power development on the All-American Canal, which by Federal law and contract belong to local public agencies in the United States.

5. It would require the building by Mexico within 5 years of a "main diversion structure" or dam across the Colorado River, which structure is not now necessary and which would create a flood and drainage menace to communities in the United States.

6. It would violate the solemn promise of Congress that war veterans should have the preferred right to settle public lands below Boulder Dam and irrigate them with the waters conserved by that dam.

7. It would violate contracts for delivery of water and power made by the United States with its own States and communities and would prevent the United States from performing its own contracts.

8. It would delegate to a Federal Commission, beyond recall, powers of Congress over public works which should remain within the control of Congress.

9. It would set up an arbitrary, dictatorial, two-man commission, with unlimited powers over the economic welfare of millions of American people, each Commissioner being responsible only to the Department of State and not to Congress or the courts.

10. It would invade the constitutional jurisdiction of the States and federalize waters and irrigation and power works which belong to the States and State agencies.

11. It would give the two commissioners power to enter into, carry out, and enforce further agreements, with the approval of the Secretary of State and the Minister of Foreign Relations of Mexico, without the consent of Congress.

12. It would nullify the reservation attached by the United States Senate to the Inter-American Arbitration Treaty of 1929, requiring the approval of the Senate of questions to be arbitrated, by enabling the commission to settle all disputes and to formulate the "special agreements" defining such questions. Now, therefore, be it

Resolved, That in the judgment of this conference, said treaty is not in the interests of the United States or of the Colorado River Basin and that this conference does emphatically oppose its ratification by the United States Senate; and be it further,

Resolved, That the secretary of this conference transmit to each Member of the United States Senate a certified copy of this resolution; and be it further

Resolved, That this conference continue as a permanent organization, to meet at the call of the chair and to be known as the Colorado River Water Users Conference, its membership to be open to all water users and organizations of water users in the Colorado River Basin and its affairs to be managed in the interim between meetings by a working committee consisting of one member from each State in said basin, elected by the water users of such State here present.

CERTIFICATE

I, A. J. Shaver, resident engineer of the Colorado River Commission of Nevada and secretary of the Colorado River Water Users Conference, do hereby certify:

That the foregoing is a true copy of a resolution unanimously adopted at a meeting of said conference held at Las Vegas, Nev., on the 13th day of January 1945, at which meeting there were in attendance 51 delegates from the following States and organizations:

Arizona.—Salt River Water Users Association, Gila Valley irrigation district, San Carlos irrigation and drainage district, and Verde Tunnel reclamation district.

Colorado.—Southwestern Colorado water conservation district and La water conservation district.

California.—State of California, Colorado River Board of California, Imperial irrigation district, the metropolitan water district of southern California, Coachella Valley County water district, Palo Verde irrigation district, city of Diego, and city of Los Angeles.

Nevada.—The State of Nevada, Colorado River Commission of Nevada, County, and city of Las Vegas.

Utah.—The metropolitan water district of Salt Lake City, Provo River Water Users Association, Virgin Canal Co., Utah Water Users Association, Virgin Water Users Association, Hurricane Canal Co., Bench Lake Irrigation Co., Water Resources Division, St. George & Washington Canal Co., La Verkin Canal Co., and city of Hurricane.

Wyoming.—Green River Development Co.

Witness my hand this 15th day of January 1945.

A. J. SHAVER, *Secretary*

COUNTY OF CLARK,

State of Nevada, ss:

On this 16th day of January, A. D. 1945 personally appeared before me, Hawkins, a notary public in and for said county of Clark, A. J. Shaver, known to me to be the secretary of the Colorado River Water Users Conference, and to be the person described in and who certified to the above and foregoing petition; who duly acknowledged to me that he signed said certificate as secretary of said conference and attached his certificate freely and voluntarily and for the uses and purposes therein mentioned.

In witness whereof I have hereunto set my hand and affixed my notarial seal at my office in Las Vegas, Clark County, Nev., the day and year in this certificate above written.

[SEAL]

L. O. HAWKINS, *Notary Public*

My commission expires January 4, 1947.

Senator McCARRAN. Again, the water users of the Colorado River Basin consist of the water users of Arizona, Colorado, California, Nevada, Utah, and Wyoming. I beg leave to read the names of the users.

The CHAIRMAN. Are they organizations?

Senator McCARRAN. They are organizations.

The CHAIRMAN. You say "water users." What do you mean by that? Do you mean organizations?

Senator McCARRAN. They style themselves as water users [unclear]ing]:

Arizona.—Salt River Water Users Association, Gila Valley Irrigation District, San Carlos irrigation and drainage district, and Verde Tunnel reclamation district.

Colorado.—Southwestern Colorado water conservation district and La water conservation district.

California.—State of California, Colorado River Board of California, Imperial irrigation district, the metropolitan water district of Southern California, Coachella Valley County water district, Palo Verde irrigation district, city of San Diego, and city of Los Angeles.

Nevada.—The State of Nevada, Colorado River Commission of Nevada, County, and city of Las Vegas.

Utah.—The metropolitan water district of Salt Lake City, Provo River Water Users Association, Virgin Canal Co., Utah Water Users Association, Virgin Water Users Association, Hurricane Canal Co., Bench Lake Irrigation Co., Water Resources Division, St. George and Washington Canal Co., La Verkin Canal Co., and city of Hurricane.

Wyoming.—Green River Development Co.

Those resolutions were passed by those groups at Las Vegas, on January 13, 1945. I submit them for the record in connection with my statement.

I am grateful to the committee for its patience in listening to me. I again request—and I realize that the request is not usual, and I would not be at all offended if I were turned down, because it is unusual—that on my return, for I must leave tonight for the West, I be permitted to appear before this committee to make a recapitulation of this whole problem. I make that request, Mr. Chairman, because of the seriousness of this proposition. This is not merely a treaty between the United States and a foreign country; this means the life of a great section of the United States. It means that if this treaty becomes a law, there will be no further reclamation and irrigation developments in the basin States that constitute the country tributary to the Colorado River.

The CHAIRMAN. Senator, let me say at this point that we shall be glad if we are still in session and holding hearings when you come back to accord you that courtesy.

Senator McCARRAN. Of course, you put that condition on me.

The CHAIRMAN. We cannot control the action of the whole committee by your absence. We want to be courteous, and if we are still in session, we shall be glad to hear you. But it is exceedingly unusual to postpone action otherwise.

Senator MURDOCK. Mr. Chairman, certain water associations of the State of Utah were mentioned by Senator McCarran. Mr. Wallace, who represents the Utah Water Users Association, desires to make some comment with reference to the use of the name of that association, and I ask at this time that he be allowed to do so.

The CHAIRMAN. Could he not wait until we conclude with Senator McCarran?

Senator MURDOCK. Very well.

The CHAIRMAN. Senator McCarran, if in the development of the Southwest all the water of the Colorado River could be used, would you favor denying Mexico any water at all?

Senator McCARRAN. I would deny to Mexico the use of any more water than she actually had put to a beneficial use; but if she had prior rights and had applied it to beneficial use, then I would say she was entitled to so much of the flow of the Colorado River.

The CHAIRMAN. If you do that, would not the Commissioner sitting in Mexico have the right to interfere with the use of water in the United States, we having exercised that same power with reference to whatever she was to get, even though it was prior to the building of Boulder Dam? Would there not be that same danger of his interfering on the United States side?

Senator McCARRAN. No; I would not be afraid of his interfering, if he does not interfere with the power of the treaty behind him. I would not be afraid of his interfering at all.

The CHAIRMAN. How would you secure to Mexico the water she got originally unless you gave it to her by treaty?

Senator McCARRAN. Perhaps we do not understand each other, and I do not mean to be captious in the answer; but he has the right now to regulate the flow of the Colorado River.

The CHAIRMAN. So you would be willing for Mexico to have barely the water she used before Boulder Dam was constructed. How would you assure her of that? Would you not give her a treaty to guarantee that?

Senator McCARRAN. Seven hundred and fifty thousand
The CHAIRMAN. All right. Fix it in the treaty. Wo
Commissioner have the same regulatory powers with reg
much water that you say they would have under the treat
we now have as to more water?

Senator McCARRAN. Not by any treaty I would agree to.
The CHAIRMAN. You just said you would make a treaty
750,000 acre-feet.

Senator McCARRAN. That is all right—to give it to t
boundary of Mexico, where they received it before.

The CHAIRMAN. That is what I mean.

Senator MURDOCK. Mr. Chairman, Mr. Wallace has ca
tention to the fact that certain statements made by Senato
in his remarks were not in line with the facts as to Utah a
May Mr. Wallace inquire about that?

The CHAIRMAN. Very well.

Mr. WALLACE. Is the name of the Utah Water Users
attached to that document, Senator?

Senator McCARRAN. If I read it, it is. I will read them
Utah—The Metropolitan Water District of Salt Lake City, Provo
Users Association, Virgin Canal Co., Utah Water Users Association

Mr. WALLACE. (interposing). Right there. I am presi
Utah Water Users Association, and no such action has

Senator McCARRAN. I have this attested to under oath b
tary of the group. That is all I know about it.

Mr. WALLACE. There was no one at that meeting who ha
to speak for the Utah Water Users Association, and the U
Users Association, representing people all over the State, h
such action.

Senator McCARRAN. I know only what has been transm
Senator HAYDEN. May I make an inquiry of the Se
Chairman?

The CHAIRMAN. Senator Hayden.

Senator HAYDEN. Assuming that the testimony made by
national Water Commissioner was correct, that the actual i
in Mexico had practically doubled since Boulder Dam was
is, instead of using 750,000 acre-feet, they are using 1,80
feet—that means, of course, that more land has been put i
vation in Mexico since Boulder Dam was built.

It was also testified, I believe, that on the average som
acre-feet of water have been coming down the Colorado
Mexico since Boulder Dam was built, in this equated fl
Mexicans continue to expand their cultivation in Mexico j
the water comes there, and then a time comes when we
the water, what is the Senator's solution to a claim raised
that having put the water to beneficial use in Mexico i
application in the United States they should retain the us

Senator McCARRAN. My answer to that comes from t
First of all, we notified Mexico by the resolution passed b
ernors and by the debate that preceded adoption of the F
that all conserved waters that were brought into cons
Boulder Dam and by other works are to be utilized within
of the United States. So Mexico had full notice of that.

Secondly, I would not take water away from the development of my own country to give it to Mexico, no matter how much good neighbor policy I might be possessed of.

Senator HAYDEN. Suppose the time came when we must take water away from Mexican land already in cultivation and put it back in the desert. Naturally, there would be a protest on the part of Mexico, saying, "The water came, and we have used it"; and they had a right to use it.

Senator McCARRAN. That was the stored water. They would not have had it had it not been for the Boulder Canyon works. We declared that there would be no benefits flowing to Mexico from the storage project, so they took it under notice, and they must relinquish when our country needs it.

Senator HAYDEN. They had, say, 200,000 acres under irrigation before Boulder Dam; today they have 400,000 acres under irrigation.

Senator McCARRAN. If that be true; I do not know that.

Senator HAYDEN. I am just assuming that. Then, whenever we get ready to use the water that is now applied to their additional 200,000 acres, the Senator's contention is that we have a perfect right to dry that land up?

Senator McCARRAN. That is correct, because we notified them before they took it, and they took it under notice; and today our own Reclamation Bureau says that we are deficient to the extent of 1,200,000.

Senator HAYDEN. Mexico would have no recourse against this Government of ours?

Senator McCARRAN. None whatever.

Senator HAYDEN. Legal or equitable?

Senator McCARRAN. No, sir.

Senator HAYDEN. That is the Senator's contention?

Senator McCARRAN. Yes, sir.

The CHAIRMAN. Senator, by reason of the utilization of the water for power purposes, a certain amount of the water stored behind Boulder Dam has to be released, does it not?

Senator McCARRAN. Yes.

The CHAIRMAN. At present, that water flows on down the Colorado unimpeded until it gets to Mexico. How much is that a year, if you know?

Senator McCARRAN. No, sir; I do not know.

Senator DOWNEY. May I ask a question, please?

The CHAIRMAN. Yes.

Senator DOWNEY. Senator McCarran, is it not the law in every Western State, including Arizona, Nevada, Utah, California, and all the rest, wherever any governmental agency or sovereignty builds a reservoir, that the sovereignty owns the water stored there until its people can make use of it against any appropriating?

Senator McCARRAN. There are two doctrines on that. The Western States have always contended, and I contend, that the flow—the natural flow—of a stream belongs to the people of the State. I shall always contend for that. However, the impounded waters in Mead Lake are undoubtedly under the supervision, direction, and control of the Government of the United States, but it is only the supervision and control of the Government of the United States for distribution to the people who have contracted for the utilization of the water. I do not know whether I have answered your question.

Senator DOWNEY. Partly, yes; I should like to amplify it, Is it not true, under the laws of the Western States, applying to the hypothetical question asked by the Senator from Arizona respect to the 7,000,000 acre-feet of water now flowing annually in the Colorado River, principally because it is not being used in the upper basin States, that while Mexico has a right to use the acre-feet of water abandoned and not used in the United States does not abandon the right to that water, and the use of the water does not give any right to a water user?

Senator McCARRAN. Of course, I am not going into the relations of water law; but we have what is known as the doctrine of relations that has its application in the Western States.

But in addition to that, money from the Boulder Dam being set aside for the making of studies and surveys in the basin, and in the lower basin as well, for the application of water when, as, and if it is stored. So we are taking steps toward the utilization of that water, and the idea of abandonment enters into it. It cannot enter into it; the United States has not abandoned the use of the water.

Senator MURDOCK. Along that line, Senator McCarran, under the Colorado River compact, all of the States that entered into the compact agreed on a division, did they not, of 16,000,000 acre-feet per annum?

Senator McCARRAN. If that be the figure.

Senator MURDOCK. Seven and one-half million for the upper basin, 7½ million for the lower basin, plus an additional million acre-feet; so we have a compact among the States dividing 16 million acre-feet of the flow of the Colorado River.

That compact was submitted, was it not, to the Congress of the United States, and by the Congress approved?

Senator McCARRAN. I should have to consult the record, but I am not certain.

Senator MURDOCK. I think it is a fact that the Congress of the United States approved the division of the waters of the Colorado River as provided in the compact.

Having done that, do you then consider the United States precluded from taking any steps in the giving of any of that water which was involved in the compact, to some foreign state?

Senator McCARRAN. I go further than that. I answer your question in the affirmative; that the United States is so precluded only, that does not deprive the users of water on the Colorado River system from the use of water even in excess of the 16,000,000 acre-feet that you spoke of.

Senator MURDOCK. The point I have in mind, that I tried to develop, is the fact that already, whether it takes the entire flow of the river or not, 16,000,000 acre-feet have been divided as between two basins. That division has been approved by the Congress of the United States. In my opinion, that is the first step, certainly, in the appropriation by the Western States and the people of the Western States of at least 16,000,000 acre-feet of the flow of the Colorado River.

Senator McCARRAN. Of course, if the Congress of the United States approved, as you say it did, it approved of an agreement between those two divisions.

Senator MURDOCK. I do not think there is a question but that the compact was approved by the Congress. That was one of the steps necessary before the building of Boulder Canyon Dam.

Senator McCARRAN. I am a little at a loss to know how that will affect anything else, and even whether it would affect the rights in Mexico. I do not think it would. But I contend that Mexico is not entitled to any more water than he had put to potential use prior to our construction of Boulder Dam.

Senator MURDOCK. I have not, up to this time, made a decision as to whether I favor this treaty or not, but I do want to develop the point that the compact deals with at least 16,000,000 acre-feet of water.

The CHAIRMAN. The compact, in order to be effective, would have had to be approved by the Congress.

Senator MURDOCK. Yes, by the Congress; and it was approved.

The CHAIRMAN. Any compact between the States is ineffective until it is approved by Congress.

Senator MURDOCK. That is right. You will find, on this Colorado River system, that the compact was approved. However, it was never agreed to by the Legislature of the State of Arizona.

Senator HAYDEN. It has been now.

Senator MURDOCK. It has been now, but at that time it was not.

Senator WILEY. In relation to the matter that Senator Murdock just brought out, I thought he was going to follow it through, but he did not, so I am going to ask the question.

Assuming that the compact he speaks of between the States and the Federal Government is just as he says it is, and that some 7,000,000 acre-feet have been apportioned to the upper Colorado, to your knowledge has there ever been any release by any of the upper States of their share of that water in any way? Has there been any further understanding?

Senator McCARRAN. Not that I have any knowledge of.

Senator MURDOCK. Now, one other question. I assume from what you have said that if this treaty should go through, a great deal of value invested by our own people in lands that have become really valuable since the dam was built would be damaged or lessened or go out of the window?

Senator McCARRAN. Yes.

Senator WILEY. That is because waters that they now have, you claim, as a matter of absolute right would be taken from them, resulting in damage to their investments?

Senator McCARRAN. If not taken from them, at least jeopardized. Put it that way, and you have it even more mildly; and then it is serious. If not taken from them, at least jeopardized. It could not be otherwise.

Senator WILEY. You claim that those investments that were made since the dam was built were made because of the compact between the Federal Government and the States in relation to this very water?

Senator McCARRAN. The diversions were made?

Senator WILEY. No, no; the investments. I assume that there has been a great deal of investment in lands and developments in relation to this valley.

Senator McCARRAN. That is right.

Senator WILEY. That was done because of reliance on the compact?

Senator McCARRAN. Certainly.

Senator WILEY. And the building of the dam?

Senator McCARRAN. Take the aqueduct running from River to the territory south of Los Angeles in California. The people of the State of California bonded themselves for millions of dollars to put that aqueduct through, relying on something they had been told, and agreeing to a ruling of the Government saying that they would get the water.

Senator WILEY. Do you think if this treaty were to be made that that aqueduct would be damaged or that the water would be damaged?

Senator McCARRAN. Yes, I do. I think it would be jeopardized, because when the time comes and the Bourns Commission says, "We have got to deliver water to Mexico," they will go to the headgates of the aqueduct and say, "Shut down the aqueduct because there is going to be water sent across the line."

The CHAIRMAN. Under the treaty, Mexico is to be entitled to receive 1,500,000 acre-feet; is that right?

Senator McCARRAN. Yes.

The CHAIRMAN. How many acre-feet flow down the Colorado River annually?

Senator McCARRAN. Well, it is hundreds of millions.

The CHAIRMAN. Even after Mexico got her 1,500,000 acre-feet, there would be more than 16,000,000 that the Senator spoke of.

Senator McCARRAN. Yes; but you have to figure on the low river.

The CHAIRMAN. I know, but I am asking if that is true.

Senator McCARRAN. You must figure on your low river, not on a flood river.

The CHAIRMAN. But the dam holds the waters.

Senator McCARRAN. Not necessarily; they have to let the waters go sometimes.

The CHAIRMAN. If we gave Mexico the 1,500,000 acre-feet under the treaty, would there not still be more water going down the Colorado River than the 16,000,000 acre-feet which was agreed to in the compact?

Senator McCARRAN. Not at low river; no, sir.

The CHAIRMAN. You do not have a very low river where the dam is holding the water back.

Senator McCARRAN. But remember, the Colorado River is below Boulder Dam. A great area served by the Colorado River is above Boulder Dam.

The CHAIRMAN. Then, you cannot answer my question as to how much goes down the river?

Senator McCARRAN. No; I could not tell you the answer, and I will attempt to get it.

Senator HAWKES. Mr. Chairman, may I bring out another question?

The CHAIRMAN. Senator Hawkes.

Senator HAWKES. I should like to ask, Senator McCARRAN, is not a vast difference in your mind between water flowing in the Colorado River 1 year that is not needed, and being obligated to use 1,500,000 acre-feet of water instead of 750,000 acre-feet of water in the United States?

Senator McCARRAN. You could answer that question "Yes"; but let me say to you that we in the West—

West—all recognize the law of prior appropriation and prior use. It is the only law we can recognize. The old riparian law had to be abrogated because of conditions that exist in the West. They have been abrogated by constitutional and by judicial mandate. Now, Mexico is in no different position from, or should not be favored more than, the United States of America. If she put 750,000 acres under cultivation with the river as it was before the water was impounded, she is not entitled to any more after the water was impounded, because the impounding was an artificial arrangement, done by the money of this country.

Senator HAWKES. That is the very point I have in mind. If this treaty were adopted, this country would be obligated to give Mexico 1,500,000 acre-feet of water?

Senator McCARRAN. I do not know how you could read the treaty in any other way.

The CHAIRMAN. That is right.

Senator HAWKES. Let me say this—and I think I know a little about California and your part of the country—that you cannot rely on an uncertain thing to develop that country. That is the reason why you built Boulder Dam. It was to make the thing certain, so that you would know you would have water coverage and could make your plans to develop the Nation.

Senator McCARRAN. That is right.

Senator HAWKES. Thank you.

Senator AUSTIN. Mr. Chairman—

The CHAIRMAN. Senator Austin.

Senator AUSTIN. I ask you this as a lawyer. Under your western laws of prior use, do the riparian rights in the United States down to the Mexican border have the effect of delivering to Mexico a certain minimum quantity based on the natural flow of water?

Senator McCARRAN. Now, Senator, I must apologize; I did not catch your question clearly.

Senator AUSTIN. I perceive a difference between riparian rights under the water laws in New England and riparian rights in the western country. I am trying to get cleared up on that. What I am asking is whether under your western laws, taking into account prior use, riparian rights in the United States along this river down to the Mexican border have the effect of delivering to Mexico, or letting go to Mexico, a certain minimum quantity of water based on the natural flow.

Senator McCARRAN. My answer to that, if I understand your question, is no.

The CHAIRMAN. Right on that point, Senator, you said a while ago that Mexico by her prior use would be entitled to continue to receive 750,000 acre-feet.

Senator McCARRAN. That is right, applying the doctrine of prior appropriation.

Senator AUSTIN. Apparently that answers the question the other way.

Senator McCARRAN. If you apply the doctrine of prior appropriation, which is the doctrine that prevails in the western arid and semi-arid States, then prior appropriation is prior right. So to the extent that Mexico had applied water to the land in advance of its being applied in the United States, if we apply the doctrine of prior appro-

priation, then Mexico would be entitled to that which she had beneficial use.

Senator AUSTIN. I see. Then, you give effect beyond the border to your law of prior use?

Senator McCARRAN. I do it to answer your question; that is

Senator AUSTIN. Yes. It seems to me, on the basis of my experience, that we could only be governed as far as the water runs to the boundary.

Senator McCARRAN. That is true, but I am applying it generally for the answer to your question.

Senator AUSTIN. Then Mexico could not have any benefits from laws, except as to the water that is left at the boundary after satisfying the prior uses above the boundary? Is that correct?

Senator McCARRAN. That is right; that is my answer.

Senator AUSTIN. Then there must be a yardstick. I am asking my next question, whether or not that yardstick is based on the flow of the river.

Senator McCARRAN. That would be based on the natural flow of the river.

Senator AUSTIN. Thank you.

Senator LUCAS. I want to ask one or two questions, Senator McCarran. Your contention is that the adoption of this treaty definitely jeopardize the Colorado Compact, as I understand it, taking away certain water rights that have been guaranteed by that compact?

Senator McCARRAN. That is one thing, yes, but that is not all.

Senator LUCAS. Do I understand you to believe that if this treaty were adopted, the number of acres of water that were testified to by the Senator from Utah would be decreased, insofar as its application to those seven States is concerned?

Senator McCARRAN. I think, if I understand your question, yes, that the answer is yes. Now, if I understand your question to

Senator LUCAS. Under the compact, a certain amount of water is guaranteed those States?

The CHAIRMAN. Sixteen million acre-feet.

Senator MURDOCK. Sixteen million acre-feet of water. Of that, in addition to that, the surplus waters above that are also divided between the upper basin and the lower basin. But there are 16,000,000 acre-feet of firm water divided between the upper- and lower States.

Senator McCARRAN. How does that apply to your question?

Senator LUCAS. Does the Senator feel that if we agree to this treaty, the number of feet just testified to be decreased by passing it on to Mexico?

Senator McCARRAN. Yes. We would practically guarantee it to the deprivation of the people.

Senator LUCAS. One further question. After talking to the Senators here, it is my understanding that some Senators representing some States in this compact are for this treaty, while some Senators representing other States are against the treaty. May I ask you how this compact affects the water rights of the State of Nevada in a different way from, we will say, Arizona, if it does?

Senator McCARRAN. I do not think it does. I think Arizona has the same general laws that prevail throughout the arid and semiarid West on this doctrine of appropriation.

Senator LUCAS. In other words, the adoption of the treaty would not place Nevada in any different category from the other States that are in the compact?

Senator McCARRAN. No.

Senator MILLIKIN. Mr. Chairman, the Senator is always very careful with his facts. If I remember his testimony correctly, he was rather adamant on the proposition that Mexico has never used more than 750,000 acre-feet.

I think, Senator, the testimony will clearly show that, for example, last year Mexico used 1,800,000 feet.

Senator McCARRAN. That may be true, but that was due to the impounding of water.

Senator MILLIKIN. But I believe that, if you will review your testimony at the beginning you will find that you were rather firm in the proposition that never more than 750,000 feet were used.

Senator McCARRAN. That was before we put in Boulder Dam.

Senator MILLIKIN. Yes.

Senator McCARRAN. They may have used some additional water since that time; but when we put in Boulder Dam, we guaranteed to our States that they should have the prior use of that water.

Senator MILLIKIN. I should like to suggest that if we view this as a problem of equitable apportionment between two sovereignties, which is the Federal rule in this country where you have the problem between two sovereign States, the question of what is being actually used beneficially would be very important in balancing the equities in the situation.

Senator McCARRAN. And beneficial use is always uppermost in the western country.

Senator MILLIKIN. In that same connection, I should like to suggest that merely building a dam, not followed by beneficial use, does not build up water rights.

Senator McCARRAN. Except as you apply the doctrine of relation.

Senator MILLIKIN. How would the Senator apply that doctrine?

Senator McCARRAN. Lands that have been taken away, to which water rights may be applied, although not directly, but that are to be benefited in the future—the doctrine of relationship applies.

Senator MILLIKIN. We protect that as among ourselves in the United States by our compact. That is the purpose of the compact, because it was realized that we all could not make the maximum use at the same time of the waters of a stream.

Senator McCARRAN. That is right; and your arid and semiarid States have applied that doctrine.

Senator MILLIKIN. But when we come to this equitable apportionment between two sovereignties, I believe that perhaps a judgment would go on a broader basis than the amount of water used prior to the building of a dam which is now providing excess water which is not being beneficially appropriated.

Senator McCARRAN. If you want to apply the good-neighbor policy to the extent of drying up your own territory and a Garden of Eden out of Mexico, that is all right.

Senator MILLIKIN. I just want to say that I would not apply a good-neighbor policy that far.

The CHAIRMAN. You say it would dry up the United States; you contend that 750,000 acre-feet, if it should be allocated to the United States, would dry up all the Southwest?

Senator McCARRAN. No; I say that 750,000 acre-feet is what is entitled to.

The CHAIRMAN. I understand.

Senator McCARRAN. But not 1,500,000 acre-feet.

The CHAIRMAN. But the treaty gives her 1,500,000, and you say that you can get that, but that it would mean drying up the west?

Senator McCARRAN. I do.

The CHAIRMAN. When your own testimony was that 100 acre-feet of water goes down the Colorado River every year?

Senator McCARRAN. I do not know about that.

The CHAIRMAN. You just said that.

Senator McCARRAN. I did not say 100,000,000 acre-feet. I think anybody knows.

Senator MURDOCK. I do not know of any record, but I have a great deal of study to the Colorado River. I do not think any such amount of water that flows down. My belief, from study or observation, is that if we find in the Colorado River only the 16,000,000 acre-feet that are divided in the compact, we are doing very well.

The CHAIRMAN. Suppose there are only 16,000,000 acre-feet. The contention of the Senator is, as I get it, that if we give 750,000 acre-feet addition, that would dry up the other 15 acre-feet in the United States. Is that right?

Senator McCARRAN. I say it will take from the waters——

The CHAIRMAN. You said "dry up."

Senator McCARRAN. All right; I will say "dry up."

The CHAIRMAN. Dry up all the Southwest area in order to give Mexico 750,000 acre-feet?

Senator McCARRAN. I did not say that.

The CHAIRMAN. When the compact provides for division of 10,000,000 acre-feet.

Senator MURDOCK. Sixteen million acre-feet is the figure used above that the compact very specifically refers to a division of waters in excess.

Senator McCARRAN. If we apply to Mexico the same rule that we apply to ourselves, Mexico would be entitled to no more than 750,000 acre-feet. That is the rule that applies in every State in the Colorado River Basin.

Senator DOWNEY. May I make a very brief comment?

The CHAIRMAN. Yes.

Senator DOWNEY. Under the very recent and exhaustive study of this problem by the Bureau of Reclamation, there were two periods when the water was low. These existed in 1901 to 1910 and 1930 to 1940. There was approximately 1,422,000 acre-feet of water in the three States in the Southwest. In other words, take the amount of water that was contracted to them under the terms of the compact at the Boulder Dam, and taking the average flow in the two low periods mentioned, we would already have a deficit of 1,422,000 acre-feet.

out giving one drop to Mexico. If we have to give 1,500,000 acre-feet to Mexico, we will be faced by a deficit of 3,000,000 acre-feet.

The CHAIRMAN. Is that quite fair, when you have included those years long before Boulder Dam was ever constructed, and are using those figures as a basis for what may happen now, when the testimony is that with the dam they have produced a great deal more water?

Senator DOWNEY. I am referring, Mr. Chairman, to what we would get from the dam in the direct flow of the river in such low periods as we might expect in the future.

The CHAIRMAN. You stated 1901 to 1908. Of course, there was no Boulder Dam then. It was not constructed until about 1935. The bill was passed in 1927.

Senator DOWNEY. What the Bureau of Reclamation has is the run-off of the so-called virgin Colorado River for 44 years. In that 44 years there are two decades of low water, one from 1901 to 1908, and the other from 1930 to 1940, speaking very roughly. Under the irrigation practices of the West we cannot rely upon the bountiful depth, we have to take into consideration the low and the arid decades. These figures are those that take into account the storage of water in Boulder Dam and other auxiliary reservoirs that are to be built. I would like to say this, that the agencies of the Government were far too optimistic, in 1920, in making the estimates under which they did contract out the 16,000,000 acre-feet. We have evidence now that there will not even be water available for that, and, regardless of giving this extra amount to Mexico, we are in a very serious situation.

The CHAIRMAN. All right, Senator McCarran. When you return we will try to give you another hearing.

Senator McCARRAN. Thank you.

The CHAIRMAN. I want to ask the members of the committee what they think of having a session this afternoon. The Senate is not in session, and if the committee cares to do so, it might be profitable to go on with this hearing this afternoon. There are a lot of men here from outside of the city that are anxious to testify.

Senator TUNNELL. I move that we meet at 2:30 for a session this afternoon.

The CHAIRMAN. Without objection, we will meet again at 2:30 this afternoon.

(Whereupon, at 12:30 p. m., a recess was taken until 2:30 p. m. of the same day.)

AFTER RECESS

The recess having expired, the committee reconvened at 2:30 o'clock and proceeded further as follows:

The CHAIRMAN. The committee will come to order. Mr. Lawson, you may proceed.

STATEMENT OF L. M. LAWSON, AMERICAN COMMISSIONER, INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND MEXICO—Resumed

Mr. LAWSON. The discussion now covers the Colorado River, which rises in the United States and flows for a distance of about 1,400 miles to the Gulf of California. For about 20 miles the river forms the

boundary line between the United States and Mexico, and about miles of its distance is entirely in Mexico. The drainage area of the river in the United States embraces portions of the States of Wyoming, Colorado, Utah, New Mexico, Arizona, Nevada, and California. The States of Wyoming and Colorado contributing about 80 percent of the entire water supply.

Senator JOHNSON of California. What page, Mr. Lawson, do you read from?

Mr. LAWSON. That would be 15, Senator, if it were marked follows page 14.

This map illustrates the general location in the States, the drainage area of the Colorado, its origin in Wyoming, the contribution of the upper Colorado, the San Juan, in New Mexico, and I call your particular attention to the location of one spot, called Lee or Lees Ferry, which has been adopted by the compact as the division point between the Upper Basin States and the Lower Basin States. (See fig. 2, p. 14.)

From there the Colorado flows through the Grand Canyon, turns south below Boulder Dam, flowing between Arizona and California, finally reaching the international boundary line and entering Mexico. One question yesterday was, the percentage of flow from the various States. This diagram illustrates the proportional contributions to the Colorado River, by States, showing Colorado, Utah, New Mexico, Arizona, Wyoming, and Nevada. In figures, Wyoming contributes 11 percent; Colorado, 62 percent; New Mexico 1 percent; Utah, 13 percent; Arizona, 12 percent; Nevada, 1 percent.

Commencing shortly below Lees Ferry, about 725 miles above the river's mouth, the stream flows for about 400 miles through a deep, arid, and desolate country before it enters the agricultural areas of the lower basin in the United States. Lee Ferry constitutes the dividing point between the upper basin and the lower basin, which are separated both physically and climatically. This division between the two basins forms the basis for the allocation of waters provided in the Colorado compact.

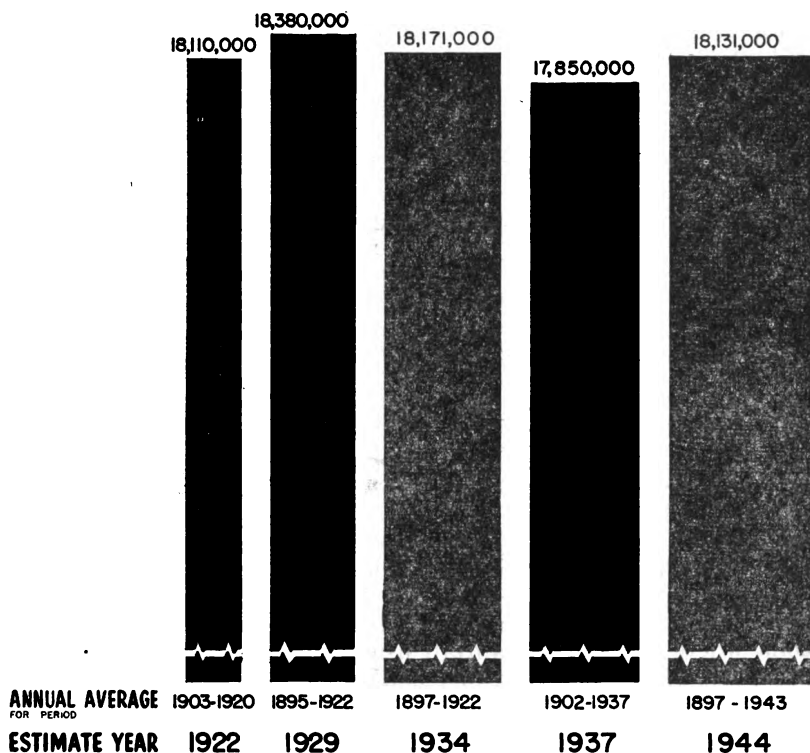
WATER SUPPLY

The water supply of the Colorado River is derived largely from snow that accumulates in the mountains of the upper basin during the winter months and which melts to cause the usual spring freshet. Records of the flow at Lee Ferry show that an average of about 500,000 acre-feet of water has passed that point annually since 1897. The reconstructed flow, or the virgin flow, since 1897, has been estimated as about 16,200,000 acre-feet at this point. Additional storage above Boulder Dam would increase this amount to about 17,400,000 acre-feet as the virgin inflow into Lake Mead.

This chart exhibits various columns of figures in total acre-feet of the reconstructed or virgin flow at Yuma, covering various periods: the first one from 1903 to 1920; the second one, 1895 to 1922; the third one from 1897 to 1922; 1902 to 1937; the last from 1897 to 1943. These are from various sources of information. The first one is from a Senate document in 1922, which covered the situation as reported at that time in connection with the construction of Boulder Dam. The various other estimates, but it is used to point out the amount of difference in the estimates from separate sources, between the virgin or reconstructed flow of the river at Yuma, Ariz.

ESTIMATES OF VIRGIN FLOW OF COLORADO RIVER (AT YUMA) FOR VARIOUS PERIODS

FIGURES IN ACRE-FEET

**Sources:**

1922 Senate Document 142
 1929 Senate Document 186
 1934 U.S.B.R. Report
 1937 Jacobs & Stevens Report
 1944 U.S.B.R. and I.B.C.

This, another hydrograph of the Colorado, shows the flow and the discharge, each year from 1902 to 1944. (See fig. 4, p. 207). We exhibit it because it shows those great variations in an uncontrolled river, one without storage works until the year 1935, when the Boulder was put in operation; it also shows the flattening of those peaks of discharge where floods that formerly passed down through Mexico are now stored back of Boulder Dam in a reservoir; 1901 and 1902 saw the first water go into Imperial Valley. That came about from a filing made on the

Colorado River, which filing was for the purpose of obtaining of 10,000 second-feet of water for use, as the filing states, "in the States and in Mexico." Following that filing a canal was cons with the headworks in the United States, passing through A territory and back into the United States, known as the Alamo. This canal was constructed by the California Development Co operated and taken over by the present Imperial irrigation dist

The concession was granted by the Mexican Government un condition that one-half of the flow of that canal would be av for Mexican use.

The year 1905 was one of great disaster. Floods from the G ginning Thanksgiving of that year, put a flood discharge in river that finally found its way into Mexico and into the In Valley. In the 2 years that the river ran in that direction, lea course to the Gulf of Mexico, it formed a lake in southern Cal with about 400 square miles of area.

The protection of lands from overflow in the Imperial Valley United States at that time, as they are now, lies in Mexico topography is such that much of the Imperial Valley and the M Valley area is below sea level—at one time the arm of the G California had extended into that area—and there was the c which actually came about, of the discharge of the entire rive Mexico, and through Mexico, into the Imperial Valley. The raphy is such that it is very easy for the river to take that . The river runs, as we might say, on the edge of a saucer, not se naturally but above sea level, the lands lying below sea level, o close to it.

Through the years following, which saw many developmen expansion of protective works in Mexico, we come to the year which produced in the month of January the largest known, rec and measured flood on the lower river of 240,000 cubic feet per s Strange enough, most of this water came from the Gila Rive not from the main Colorado. The Gila River which joins the Co just above Yuma, Ariz., has a large drainage area in southw Arizona where the annual rainfall usually is about $21\frac{1}{2}$ or 3 . but which comes in the form of cloudbursts, and which alrea produced two of the largest floods of record in the lower Co River.

IRRIGATION DEVELOPMENT

At the beginning of this century there were irrigated in the basin in the United States about 530,000 acres of land and in the basin about 205,000 acres, most of this from the Gila River i Mexico and Arizona, with a small acreage in the Palo Verde i California. By 1940 these uses had expanded so that in tha about 1,312,000 acres were being irrigated in the upper bas about 1,323,000 acres in the lower basin in the United Stat 190,000 acres in Mexico.

Irrigation development in Mexico and in the Imperial Va California started with the construction by the California D ment Co. of the Imperial canal system between 1896 and 1901 Alamo canal heads in the United States a short distance ab upper international boundary, and proceeds through Mexican tory about 43 miles, recrossing the boundary into California

vicinity of Calexico. Difficulties were experienced because of the canal passing through Mexican territory, and in order to operate in that country a Mexican subsidiary of the California Development Co. was organized and was granted the right by the Mexican Government, by contract dated May 17, 1904, to carry through the Alamo canal 10,000 second-feet of water. Mexico was given the right to devote half of the water passing through this canal to the irrigation of Mexican lands.

Expansion in both countries was rapid until about 1920, by which time the irrigated acreage in this area in both countries had reached more than half a million acres. Total diversions through the Alamo canal have exceeded 3,000,000 acre-feet annually during almost every year between 1925 and 1941. Although Mexico was entitled to the use of half of this water, in practice, prior to the placing in operation of Imperial Dam and the All-American Canals, about two-thirds of the water so diverted was used in the United States and one-third in Mexico. There has been a rapid increase in irrigation uses in the Mexicali Valley since the construction of Boulder Dam, the total area irrigated there in recent years being in excess of 300,000 acres. In 1943 more than 1,800,000 acre-feet of water of the Colorado River was diverted for use in Mexico.

We have here a chart showing the relative size of areas presently irrigated and possible of development in Mexico, with the present flow of the Colorado River. 22a. This area in dark green reflects the area presently irrigated in Mexico, while the larger area reflects the possibilities Mexico has for expansion of her territory, being about three times more than she presently uses both in area and in water. That is a possibility that we face with the continued discharge of surplus waters from Boulder Dam.

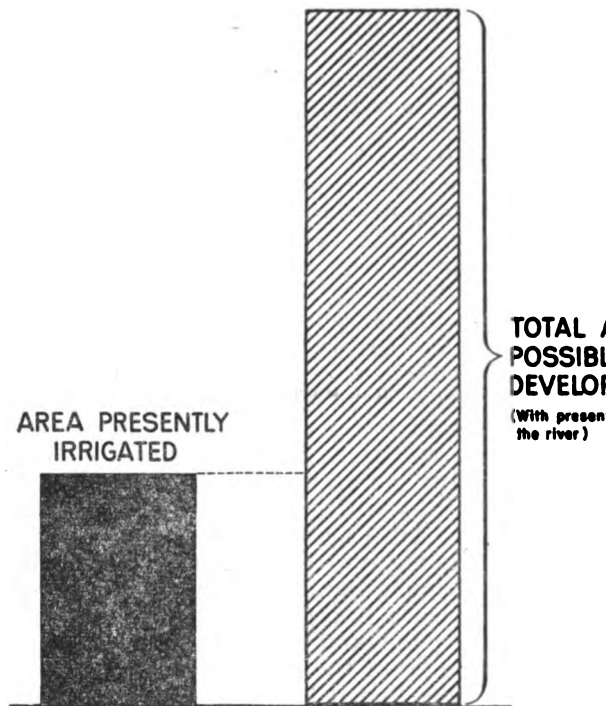
The placing in operation of the All-American Canal in 1942 now permits the delivery of water to California lands entirely through American territory, and thus free of Mexican control. This map shows in detail a situation around the boundary line in the vicinity of Yuma. (See fig. 6, p. 207.) It shows the Imperial Dam, which diverts water for the All-American Canal, in the red line, all in the United States, and going into the Imperial Valley; the river from Imperial Dam; the Laguna Dam, built about 1908; the entrance of the Gila River, from Arizona into the Colorado, its arrival at the upper boundary line, at this point, and the lower boundary line, at this point, and leaving this 20 miles of the international stream, then following through various courses that it has taken in the many years, down to the Gulf of California.

At this point is what is known as the Pilot Knob wasteway, where excess waters may be returned to the river, and where there exists of course a natural power site for the development of hydroelectric power.

On this side of the river is what is known as the Yuma irrigation project of the Bureau of Reclamation. On this side, below the boundary line, is the beginning of the area irrigated in Mexico, through this point of diversion. Lower down are places where because of the increased flow Mexican irrigators are able to divert, both by gravity and by pumping, the flow for the development of these lower lands.

Approximately 450,000 acres are now being irrigated in the Imperial irrigation district. Future expansion to include the Coachella division in the Imperial Valley may double this figure. In the

RELATIVE SIZE OF AREAS PRESENTLY IRRIGATED AND POSSIBLE OF DEVELOPMENT IN MEXICO WITH PRESENT FLOW OF COLORADO RIVER



Mexicali Valley, also, there is opportunity for great expansion in the future. Estimates of the areas in Mexico readily irrigable by the Colorado River vary from 800,000 to 1,000,000 acres.

THE COLORADO RIVER COMPACT

Because of the rapid growth of population in the lower part of the United States, there grew a demand for more intensive development of the lower Colorado River. Such development necessitated the building of a storage dam and appurtenant facilities for conservation and use of the waters of the river in the lower basin. This in turn required some agreement among the States as to the allocation of the available water supply. The result was the

lation of the Colorado River compact, which was signed at Santa Fe on November 24, 1922.

As you already heard, this morning, in the testimony, this compact divides the Colorado River into the upper and lower river basins, and apportions 7,500,000 acre-feet to each basin, with the addition of a million acre-feet to the lower basin, which I assumed is Gila flow, and provides for any future apportionment to Mexico to come first from surplus over this apportionment, and any deficiency to be equally borne by the upper and lower basins; future apportionments to be made after October 1, 1963, of surplus waters unapportioned by A, B, and C.

Senator AUSTIN. Is there ever a condition when apportionment comes out of A and B?

Mr. LAWSON. I do not quite understand the question, Senator.

Senator AUSTIN. You referred to a compact. Does the compact provide for apportionment out of that figure of 7,500,000 acre-feet to each basin?

Mr. LAWSON. That 7,500,000 is an apportionment to the upper States, and another of equal size to the lower States, increased by an additional 1,000,000. In other words, a 16,000,000 total, is apportioned in that way.

Senator AUSTIN. Very good. Now, you have in C a proposition for apportionment to Mexico. I ask you whether there is anything in the compact that permits taking that apportionment to Mexico out of items A and B?

Mr. LAWSON. The apportionment to Mexico is first made from the surpluses that will occur after these have been made.

Senator AUSTIN. And, second, from what?

Mr. LAWSON. Second, if that is insufficient, then it is to be made up equally from the upper and lower basin States.

Senator AUSTIN. That is the question, exactly.

Mr. LAWSON. Yes, sir.

Senator AUSTIN. All right.

Senator MURDOCK. May I ask a question, there, Mr. Chairman?

Senator GEORGE (acting chairman). Yes.

Senator MURDOCK. There is nothing in the compact whatever, is there, with reference to apportioning and giving any water to Mexico?

Mr. LAWSON. There is, Senator.

Senator MURDOCK. I have before me, here, I think, the statement of your predecessor, Clarence C. Stetson.

Mr. LAWSON. Yes, sir.

Senator MURDOCK. Was he not your predecessor?

Mr. LAWSON. No, sir.

Senator MURDOCK. I may be mistaken. He signs here as executive secretary, Colorado River Commission.

If it is agreeable I would like to read this into the record at this point. I believe it has something to do with Senator Austin's question. This is on page 397 of the Hoover Dam contracts. The question that was asked, there, is:

What is the estimated quantity of water which constitutes the undivided surplus of the annual flow of the Colorado River, and may the compact be construed to mean that no part of this surplus can be beneficially used or consumed in either the upper or the lower basins until 1963, so that the entire quantity above

the apportionment must flow into Mexico, where it may be used for and thus create a prior right to water which the United States would to recognize at the end of the 40-year period?

The answer made to that question by Mr. Stetson—he answered in two parts—it as follows:

(a) The unapportioned surplus is estimated at from 4,000,000 to acre-feet, but may be taken as approximately 5,000,000 acre-feet.

(b) The right to the use of unapportioned or surplus water is not by the compact. The question cannot arise until all the waters apportioned and used, and this will not be until after the lapse of a long time, perhaps 75 years. Assuming that each basin should reach the its allotment and there should still be water unapportioned, in my opinion water could be taken and used in either basin under the ordinary rules of appropriations, and such appropriations would doubtless receive confirmation by the Commission at the end of the 40-year period. There is nothing in the compact which requires any water whatever to run in Mexico, or which recognizes any Mexican rights, the only reference situation being the expression of the realization that some such right perhaps in the future be established by treaty. As I understand the the United States is not "bound to recognize" any such rights of a country unless based upon treaty stipulations.

So I take it from that answer that there are no rights covered by the compact that go to Mexico.

Mr. LAWSON. This is the treaty that establishes the right to Mexico. The compact and the Boulder Canyon Act merely call attention to the fact that there would be possibly some agreement with Mexico in the future, and no amount of water was set at that time. As a matter of fact, you see from this date here for further apportionments of October 1963, which is the date set for fixing what will be the final apportionments in the United States. I want to go into the details of the compact of the Boulder Act later, through my own witness, if you please. I am trying to cover only the general situation here and get a picture in your mind of what these things in a way amount to.

THE BOULDER CANYON PROJECT ACT

The Boulder Canyon Project Act, approved December 24, 1909, expressly approves the Colorado River compact and provides that the terms of the act shall not become effective until the compact is ratified by the seven States or by six of the States, including California. It also requires as a condition of the act's becoming effective that California should agree by act of the legislature that the total annual consumptive use of Colorado River's waters in California including all uses under contracts made under the provisions of the Boulder Canyon Project Act should not exceed 4,400,000 acre-feet. The waters apportioned to the lower basin States by paragraph 1 of article III of the compact, plus not more than one-half of any surplus waters unapportioned by the compact. Subject to these provisions, the act provides for the construction of what is now called Boulder Dam and the All-American Canal and a diversion.

The compact was ratified by six States, including California. The California Legislature passed the act agreeing to the limitations of California uses as prescribed by the Boulder Canyon Project Act, and the act thereupon became effective. Subsequently, in 1913, California ratified the compact.

DEVELOPMENTS IN THE UNITED STATES UNDER THE COLORADO RIVER COMPACT
AND THE BOULDER CANYON PROJECT ACT

Contracts for the generation and disposal of hydroelectric power to be generated at Boulder Dam, and contracts for the use within the lower basin of the waters to be impounded at Boulder Dam, were negotiated from time to time in conformity with the provisions of the Boulder Canyon Project Act. The contract with Nevada provided for the delivery to that State of 300,000 acre-feet per annum of these waters. The contract with Arizona, recently signed, calls for the delivery to Arizona of not to exceed 2,800,000 acre-feet per year of the 7,500,000 acre-feet apportioned to the lower basin by article III (a) of the compact, plus one-half of the excess or surplus waters available for use in the lower basin which are unapportioned by said compact. The contracts with the various California interests call for a maximum total delivery of 5,362,000 acre-feet per annum for use in California, subject to certain priorities of use. All these contracts are subject to the availability of water in the amounts and for the purposes specified under the Colorado River compact and the Boulder Canyon Project Act. These contracts are based, for the most part, upon proposed future developments which will not be completely realized for many years to come. The extent of present development will be noted more specifically in another paragraph of this statement.

Pursuant to the provisions of the act, Boulder Dam, the Imperial diversion dam, and the All-American Canal were constructed. Boulder Dam, with an original total capacity of about 31,000,000 acre-feet, was completed in 1935, and the Imperial Dam and the All-American Canal were completed and placed in operation early in 1942. As pointed out above, the construction of the All-American Canal now permits the delivery of water to California lands entirely through American territory, independent of the use of the Alamo canal in Mexico.

NEGOTIATIONS WITH MEXICO AND DEVELOPMENT OF THE PRESENT TREATY

Negotiations with Mexico over a division of the waters of the Colorado River have been carried on intermittently since early in this century. In 1924 the Congress passed an act authorizing the President to designate three special Commissioners to cooperate with representatives of Mexico in a study regarding the equitable use of the waters of the Rio Grande below Fort Quitman, Tex. (Public Law 118, 68th Cong., 43 Stat. 118). Mexico was unwilling to discuss the Rio Grande unless at the same time the problem of the Colorado River was also discussed. Accordingly, by joint resolution approved March 3, 1927 (Public Resolution No. 62, 69th Cong., 44 Stat. 1013), the scope of the investigation provided for by the act of May 13, 1924, was extended so as to include the Colorado River, and the resolution specifically provided that the purpose was to secure information on which to base a treaty with Mexico relative to the use of the waters of the two rivers. Permission was also granted to make a similar study of the Tijuana River, subject to Mexico's concurrence. Three Commissioners were appointed by each country, and the Commission made an investigation of the three international streams, but was unable to reach an agreement. For the United States, this Commission was rep-

resented by Dr. Elwood Meade, at that time the Commission Reclamation. Associated with him as Commissioners were Lansing Beach, ex-Chief of Engineers of the United States Army and Mr. W. E. Anderson, irrigation engineer of Texas.

With respect to the Colorado River, Mexico demanded an allocation of 3,600,000 acre-feet a year, whereas the offer of the American section was limited to an allocation to Mexico of 750,000 acre-feet annuum to be delivered according to schedule, and it was suggested in addition to this amount the American section would be willing to add an additional amount to compensate for losses in the main river in Mexico. It was also pointed out that in addition Mexico would receive certain return, drainage and other excess flows from the United States.

I think it is important at this time to call attention to the details of that offer to Mexico by the former American section of the Commission. It has great significance. Seven hundred and fifty thousand acre-feet of water was to be delivered into laterals of the canals in Mexico.

Senator TUNNELL. Mr. Chairman, could I ask a question, here?

The CHAIRMAN. Yes. Senator Tunnell.

Senator TUNNELL. I do not know anything about this question, but I am trying to learn something. Could you not tell us what the advantage to the United States would be in the adoption of this offer?

Mr. LAWSON. Yes, sir. You speak of the Colorado, or of both rivers?

Senator TUNNELL. Both—the treaty itself.

Mr. LAWSON. The treaty itself fixes for all time the obligation of the United States and the amount of water which Mexico will receive. That amount of water we believe is even less than was offered to Mexico in 1929, because, in just the reverse of that offer, this treaty proposes to credit the United States with all the return flow from the river, all the waste water that may arrive at the boundary line, has been estimated, in various ways, by various persons, to amount to, we will say, an average of at least 900,000 acre-feet.

Now, the treaty, then, does not propose to go upstream and divert water from Mexico from storage in Boulder Dam or any other dam 1,000,000 acre-feet of prime water. It proposes to get credit for the diversion of all the return flow that appears in the river due to seepage, to return of drainage water, due to operation of desilting works, and to credit itself on the account of 1,500,000 with at least 900,000 acre-feet of water. It leaves, then, from the 1,500,000 not more than the equivalent of upstream water, and not as much as the original offer in 1929 of water diverted, stored, and carried down to Mexican lands.

Senator TUNNELL. If I understand you, one advantage would be that the rights of Mexico would be fixed. Is that something gained by the treaty?

Mr. LAWSON. At the present time, Senator, there is no agreement over the division of waters, it passes down there for use, with increasing use, a beneficial use, very easily accomplished, in part because of the flatness of that delta area, an area which can be developed far easier than anything that we have in the United States, as far as time is concerned. It is quickly put under irrigation, they are making increasing use of the surplus waters now flowing there, and flowing there since 1935, with the construction of Boulder Dam.

There is great merit to the proposition that Mexico is gradually acquiring a beneficial use, acquiring something that she can make use of at some later date, when the amount of water is curtailed, or begins to run against this country in the form of a demand. Some idea prevails that, having the water there, they can build up a beneficial use. So we are confronted with a situation where there exists an area on which the surplus waters that now go down and are released from storage can gradually be put to use. Instead then of a fluctuating river with limited development and expansion before Boulder Dam was built, we have one so controlled as to make much more water available to the lower country and which they are gradually making full use of.

Senator TUNNELL. Then under this treaty the rights of Mexico would be fixed?

Mr. LAWSON. Yes.

Senator TUNNELL. Or limited, is a better word, I guess. I also understood you to say that in your opinion the amount of water received by Mexico would be actually less than it is now receiving?

Mr. LAWSON. That is true, after full development in the United States, because it will be many years—we do not know how many, because, after all, our development of irrigation works is slower and much more expensive than it is in Mexico.

The CHAIRMAN. If I understand you correctly, you mean that under present conditions the water has to be released in the river, and it goes down into Mexico, and without any treaty it is appropriated to increasing the irrigable territory there, and that if the treaty goes into effect she would be limited to 1,500,000 acre-feet in the future, but if not she could continue to develop and increase her acreage over a larger territory and have a basis in the future for a claim that she had acquired water rights by prior use, and that that would be embarrassing to the United States. Is that about your testimony?

Mr. LAWSON. Yes; Senator. If they are using, as we can assume they are, or if they are irrigating today something like 300,000 acres, they can, with the water supply being furnished, develop about three times that amount, because they have about 800,000 acres of irrigable land in that valley. The water supply is now available for their use. The treaty limits them to less water than they used last year, however.

Senator AUSTIN. Mr. Chairman, one question that troubles me a good deal is this: Why should not the obligations under this treaty, with respect to the quantity of water guaranteed to Mexico, be subject to availability of water for prior users, just as in the case of those contracts between the United States and the various States? That is a problem in my mind. Why is there not a flexible rule here based on availability of water for prior users?

Mr. LAWSON. I hope to answer that question through my next witness.

Senator AUSTIN. Very good.

Senator DOWNEY. May I ask the witness a question, please, Mr. Chairman?

The CHAIRMAN. Certainly.

Senator DOWNEY. Mr. Lawson, you have very strongly stated, as did Mr. Grew, that you are entirely confident that upon the com-

pletion of these various projects there will be 900,000 acre-feet of water, at least, of return flow at the boundary, that Mexico would be able to use; is that right?

Mr. LAWSON. That is right; yes, sir.

Senator DOWNEY. And you then stated to the committee that you would only have to add to that 600,000 acre-feet of fresh water to make the 1,500,000 acre-feet of water; is that correct?

Mr. LAWSON. Correct.

Senator DOWNEY. And I think that you were about to read the recommendation that was made some time ago that Mexico should be given 750,000 acre-feet plus the return flow?

Mr. LAWSON. That is right.

Senator DOWNEY. Of course I know that you only state that after careful consideration, and you are quite certain that you are justified in making that statement to the committee. I know that is true; the representatives of Mexico agree with you in that?

Mr. LAWSON. In negotiating the treaty, Senator, we had difficulty in persuading the Mexican representatives to accept that kind of water that is recovered flow, drainage water, and return flow. It would require in the future probably some dilution with fresher water of a less alkaline quality. We had no expression from the Mexicans in the negotiations except that at the beginning of the negotiations they insisted that the full amount of it be upstream water.

Senator DOWNEY. If you will bear with me one minute I think I have a suggestion that might be helpful in cutting this whole matter short.

The CHAIRMAN. Of course we are discussing the present treaty.
Senator DOWNEY. Yes; I understand.

Would you think that our Government and the State Department in conjunction with Mexico, would be willing to modify this treaty to provide that Mexico should have whatever return flow they want, which you are very confident in stating to the committee would be 900,000 acre-feet, plus 600,000 feet of fresh water? Suppose that should be sold to the Colorado River Basin States: I assume that they would think that that would be just as agreeable to Mexico as the present proposal, would you not?

Mr. LAWSON. I would hesitate to undertake such an arrangement because, in my own mind, I believe that the return flow will be more than 900,000 acre-feet.

Senator DOWNEY. Then you would think that the return flow from the river, as we have discussed it, plus 600,000 acre-feet of fresh water from the river, would be more advantageous to Mexico than the present proposal?

Mr. LAWSON. Mexico would have the whole amount that came from upstream sources and would disregard the allocation of return flow.

Senator DOWNEY. But in the proposed treaty you do suggest that Mexico 1,500,000 acre-feet of water. Of that you say, and you are very positive, that 900,000 at least, perhaps more, can be made up of return flow?

Mr. LAWSON. Yes, sir.

Senator DOWNEY. You say you think the return flow would be more than 900,000 acre-feet?

Mr. LAWSON. Yes.

Senator DOWNEY. Would not, then, a proposal to Mexico, if your figures are reasonably accurate, of 600,000 acre-feet from direct flow of the river, plus the return flow, whatever that might happen to be, a million, as you think, or maybe 1,200,000 or 1,900,000, be more than satisfactory to Mexico?

Mr. LAWSON. That is less than the offer of 1929.

Senator DOWNEY. I know nothing about that. I am just comparing it with the present proposal, if you thought that might help work out a harmonious arrangement between Mexico and the Colorado River Basin States; and of course I cannot speak for anybody but myself. You would not be willing to undertake to say whether or not the Government of Mexico, in lieu of taking 1,900,000 acre-feet of water, would take 600,000 acre-feet plus the return flow, whatever that is greater or less than 900,000 acre-feet?

Mr. LAWSON. We have what we believe are the best terms that can be arrived at with Mexico. We discussed for a week or 10 days the question of return flow. They objected, at first, to giving us credit for any of that return flow. But we have, we believe, with the reports on record, a very definite idea what that return flow will be, from various engineers, in their own opinion, and from our own individual studies.

Senator McFARLAND. Before the testimony is over I assume you are going to give us engineering data as to why you think there will be that much return flow, or that some other witness is going to do so?

Mr. LAWSON. Yes. We will have that for you.

Senator McFARLAND. That is the big thing, in my mind.

Mr. LAWSON. Yes; we are going into that.

Senator DOWNEY. Mr. Lawson, I am only speaking tentatively for myself. If the Colorado River Basin States that are affected here would be willing to agree to a proposal that Mexico should be given all the return flow greater or less than 900,000 acre-feet, whatever it may be, plus 600,000 acre-feet of fresh water, would the State Department of this Government be willing to recommend and to try to get the consent of the Mexican Government to that?

Mr. LAWSON. The committees of 14 and 16, of the 7 basin States, have gone on record and have more or less established the conditions of this water allocation. It is the very formula that we accepted and used in pursuing the negotiation of the treaty with Mexico. One of the particular things was the very definite idea that we account for, and not disregard, and get credit for the United States for all those return flows, because there were engineers on that committee who realized that it would amount to quite a large figure—water which of course Mexico would get anyway, whether there is any treaty or not. In other words, the return flow to the river, particularly from the Gila, arrives at the Colorado at a point, where it is hardly useful to us. There could be, of course, enormous pumping plants to take water from the river to the All-American Canal; but it is water that would arrive there anyway and be available to Mexico.

We were instructed, and we carried out those instructions, by the committee of 14 and 16 that we would get an accounting of that large amount of return flow that would be available to Mexico, and that the difference between that and the 1,500,000 acre-feet was not established by the Department of State or the International Boundary Commission, but was established by the majority of the States of the drainage area.

Senator DOWNEY. Of course, Mr. Lawson, it is now up to the Senators, and not the water commissioners. I would not make any final conclusion without following the advice of the senior Senator from my State, and I have had no opportunity to talk with him about it; but I do think there is a possibility, from what I know of it, that our State Department and Mexico would be satisfied with a proposal to give Mexico all the return flow which you, Mr. Lawson, have told this committee will be in excess of 900,000 acre-feet, plus 600,000 acre-feet of fresh water, and that there is a likelihood that we can work that out.

The CHAIRMAN. Would you favor that?

Senator DOWNEY. I would, very much.

The CHAIRMAN. If the treaty were here now?

Senator DOWNEY. Yes; I would, sir.

The CHAIRMAN. If you are for that, and the treaty uses different language and different terms, but has the same substance and the same result, why would you not favor it?

Senator DOWNEY. Because we think the return flow would be far less, and we are of the opinion that the treaty should not be made until we know what that return flow is, and many other factors; and since the representatives of the State Department are very positive it will amount to that, let them take the risk. I think it is perfectly fair.

Mr. LAWSON. May I at this time put on a witness for the Commission to go into the matter of the compact and the rights and other matters of a legal character? I think it would be interesting at this time.

The CHAIRMAN. Do you have other matters that you want to submit later?

Mr. LAWSON. Yes, sir.

The CHAIRMAN. If it is agreeable to the committee, without objection we will permit Mr. Lawson to retire, at the moment, and call Mr. Clayton.

STATEMENT OF FRANK B. CLAYTON, COUNSEL, AMERICAN SECTION, INTERNATIONAL BOUNDARY COMMISSION

The CHAIRMAN. Give the reporter your name and official title, for the benefit of the record.

Mr. CLAYTON. Mr. Chairman, and gentlemen of the committee, my name is Frank B. Clayton, and I am counsel for the American section of the International Boundary Commission.

As Mr. Grew and Mr. Lawson have already told the committee, the present treaty is a culmination of many years of intermittent negotiations. As far as the Rio Grande is concerned, they started in the latter part of the last century.

Senator DOWNEY. May I now interrupt to ascertain who is testifying, and his official position?

Mr. CLAYTON. Frank B. Clayton, counsel, American section, International Boundary Commission.

Senator McFARLAND. I think it might be helpful if Mr. Clayton would give us a little of his background.

The CHAIRMAN. All right. Tell us who you are, Mr. Clayton. As I understand it, you are from El Paso, Tex.?

Mr. CLAYTON. Yes, sir; I am a native Texan. I am a lawyer. I was educated at the University of Texas and taught there for a few years in the law school, and entered private practice in El Paso in 1928. I was Rio Grande compact commissioner for Texas for 4 years. I was city attorney for a few years, and for the last 3½ years attorney for the American section of the International Boundary Commission.

Senator McFARLAND. Did you have any experience in water law before you accepted your present position?

Mr. CLAYTON. Yes, sir. My practice was to a large extent devoted to water law. I represented an irrigation district for a number of years. I was Rio Grande compact commissioner for Texas for 4 years, and during that 4 years I was counsel for the State of Texas in litigation with the State of New Mexico over the waters of the Rio Grande, and during that period of time I negotiated the Rio Grande compact which was signed, I believe, in 1936 or 1937.

The CHAIRMAN. Are there any other questions, Senator?

Senator McFARLAND. No; I think that is all. I just wanted to know something about his background.

The CHAIRMAN. I am glad you asked the questions. Proceed.

Mr. CLAYTON. Without going into any particular detail about the history of this matter, the preceding witnesses have already testified that the negotiation during the early part of this century resulted in the treaty of 1906 with Mexico, which settled the water problems of the two countries on the Rio Grande above Fort Quitman, Tex., and there was allocated to Mexico a quantity of 60,000 acre-feet of water a year, which was the largest amount that they had previously beneficially used in that country.

The CHAIRMAN. Right there, let me ask you a question. Theretofore the waters of the Rio Grande, of course, just like the waters of the Colorado River, prior to Boulder Dam, flowed down the river unobstructed. When we then started to establish the dam at Elephant Butte and backed up the waters of the Rio Grande, it was conceived that it was fair to release to Mexico as much water for her use in the Juarez Valley in Mexico as she had theretofore used?

Mr. CLAYTON. Yes, sir.

The CHAIRMAN. That is why it was put into the treaty?

Mr. CLAYTON. Yes, sir. That was done entirely at the expense of the United States. The treaty itself was conditioned upon the building of Elephant Butte Dam at the expense of the United States, and it provided that the water should be delivered according to schedules which were fixed in the treaty, without expense to Mexico, at their head gate in the Juarez Valley, just a little way above El Paso.

Senator HAWKES. May I ask a question right there, Mr. Chairman?

The CHAIRMAN. Yes.

Senator HAWKES. Does the water in the Rio Grande originate in the United States, that is backed up by that dam, or does it originate in Mexico and come through the United States?

Mr. CLAYTON. So far as the waters above Fort Quitman are concerned, they originate entirely in the United States. The situation with respect to that portion of the river covered by the treaty of 1906 is identical with the present situation on the Colorado River.

Senator HAWKES. Thank you very much.

Mr. CLAYTON. In 1924 the Congress of the United States sought to facilitate matters, as far as the lower Rio Grande Valley was concerned,

because of the critical situation that was then prevailing in that valley, and which still is, and it passed a joint resolution which authorized the appointment of commissioners to cooperate with commissioners from Mexico to seek an equitable disposition of the waters of that stream. As Commissioner Lawson has told you, Mexico refused to negotiate with respect to the Rio Grande without at the same time dealing with the waters of the Colorado River, both of them being international streams. Consequently, in 1927 Congress amended the joint resolution of 1924 so as to authorize the appointment of commissioners to investigate waters not only of the lower Rio Grande and the Colorado River, but also, with Mexican consent, of the Tijuana. Mexico acceded to that and commissioners were appointed, three by each country, and they held a series of meetings and compiled a large mass of data, but they failed to reach an agreement.

As Mr. Lawson has told you, the Mexicans at that time adhered to a demand of 3,600,000 acre-feet of water a year. The American section offered 750,000 acre-feet of water a year, plus a sufficient additional amount of water to compensate for canal losses: that is, this 750,000 acre-feet of water a year was to be delivered net in the laterals supplying the land, and there would be unavoidably certain canal losses through evaporation in that arid and hot country, and seepage, and so forth. While I am no engineer, and this is from hearsay, the engineers have variously estimated the additional amount that would have been required at from 250,000 to 350,000 acre feet a year.

In addition to that, the American section pointed out that Mexico would receive the benefit of all return and waste flows originating in the United States, which would be a substantial figure.

I might point out right here that this offer of the American section was made in the year 1929 and conditioned upon the building of Boulder Dam. The significance of that is, as was pointed out by the Senator from Nevada this morning, that the Boulder Canyon Project Act contains a provision to the effect that—

For the purpose of controlling floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters thereof, for reclamation of public lands, and other beneficial uses exclusively within the United States.

I think, gentlemen, that that particular provision has been over-emphasized.

In the same act, and in the same article and below the point from which I was quoting, it says:

Subject to terms of the Colorado River compact hereinafter mentioned.

And the Boulder Canyon Project Act specifically approved the Colorado River compact which, in turn, as has already been pointed out, and which I will refer to again in a moment, recognized the possibility, if not the probability, of the future allocation of water to Mexico, whether as a matter of comity or equity or international law or what not.

That act was passed in 1928 and contained in it the clause that the Senator from Nevada referred to this morning, "beneficial uses exclusively within the United States." And yet in the following year, 1929, the American section of the Commission made the offer which has been approved, I think, even by opponents of this treaty; that is,

the offer of 750,000 acre-feet to be delivered, conditioned upon the building of Boulder Dam, which they said was necessary in order to regulate the delivery of that water.

It shows that at least in the minds of the committee, that in 1929 they interpreted the Boulder Canyon Project Act, with that provision in it, as being subservient to the compact, but made provision for the delivery of water to Mexico and expressly provided for the use of Boulder Dam for the purpose of making Mexican deliveries.

The present treaty does not go that far. The present treaty does not mention the Boulder Dam. The Boulder Dam is entirely unnecessary to effectuate deliveries of water to Mexico. In place of that the pending treaty provides for the building of Davis Dam below Boulder Dam, a portion of the capacity of which will be necessary to regulate the Mexican deliveries at the boundary line; and you gentlemen will recall that in the justification for the building of Davis Dam, which has already been authorized by the Congress and an appropriation has been made for the construction, which actually started before the necessities of war caused suspension of construction—one of the justifications for Davis Dam was given as the necessity for its use in metering out waters to Mexico, which might be provided for by treaty or otherwise.

It will be borne in mind, then, that by virtue of the provisions of the act of 1927 Congress recognized the necessity of dealing with all three international streams at once, and not dealing with them separately. Nevertheless, the negotiations having failed, the old water commission, the old Mead commission, was dissolved by virtue of a provision of the Economy Act of 1932, and its powers and functions and duties were transferred to the American section of the International Boundary Commission. Since that time the American section of the International Boundary Commission has been carrying on studies which finally led to the development of the data on which the present treaty was based.

However, before passing from that subject I wish to refer briefly to a provision of the Colorado River Compact, since that has been brought into the discussion and since it, together with the Boulder Canyon Project Act, is said to constitute the law of the Colorado River as far as domestic law is concerned.

As Mr. Lawson pointed out, the Colorado River Compact, in the first place, divided the Colorado River Basin into two basins, the upper basin and the lower basin, the point of division being Lee Ferry. It also divided the States of the Colorado River Basin into States of the upper division and States of the lower division. The two were not identical; I mean, they did not coincide exactly. For instance, the States of the upper division are Colorado, Utah, New Mexico, and Wyoming. The States of the lower division are Arizona, California, and Nevada. Utah and New Mexico have part of their drainage areas in both basins. Consequently they belong both to the upper basin and to the lower basin. But the allocations of waters under the Colorado River Compact are based upon that; 7,500,000 acre-feet per year being allocated to the upper basin and 8,500,000 acre-feet being allocated to the lower basin; that is, 16,000,000 acre-feet of water a year.

It was thought at that time, according to the figures that were read by Senator Murdock a few minutes ago, that there would be a surplus

over and above that, of some 4,000,000 or 5,000,000 acre-feet, I believe—was it not, Senator?

Senator MURDOCK. Those figures are what the then Secretary of Commerce, Mr. Hoover, estimated in reply to questions submitted by Senator Hayden, who at that time was Representative Hayden.

Mr. CLAYTON. Yes, sir. That was my recollection.

Senator MURDOCK. Did I understand you to say a few minutes ago that the Colorado River Compact did anything about apportioning waters to Mexico?

Mr. CLAYTON. Yes, sir.

Senator MURDOCK. That is your position?

Mr. CLAYTON. Yes, sir. I will get to that in just a moment.

Senator MURDOCK. I just want to make this observation, that it is in direct conflict with the position taken by Mr. Hoover when he was Secretary of Commerce.

Mr. CLAYTON. I do not mean that an allocation was made to Mexico by the compact; I mean that provision was made for supplying any allocation that might in future be made to Mexico. That was done in the compact.

Senator MURDOCK. I would like at the proper time to read into the record the question submitted by Senator Hayden on this very matter, and the answer of President Hoover, who was then Secretary of Commerce.

The CHAIRMAN. The committee will give you an opportunity to do that.

Mr. CLAYTON. If you will permit me, I will read the particular paragraph that I have reference to. The compact, by the way, is in the statement which you gentlemen have before you, and the particular paragraph is on page 57 of the exhibits. It is article III, section (c). Sections (a) and (b) made the allocations to the upper and lower basins. Subsection (c) provided:

"If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b)—

That is, allocations as to the upper and lower basins—

and if such surplus shall prove insufficient for this purpose, then, the burden of such deficiency shall be equally borne by the upper basin and the lower basin, and whenever necessary the States of the upper basin shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d).

Apparently at that time they were too generous in their estimates of the amount of water available in the Colorado River. They thought that after the apportionment of 16 million acre-feet to the upper and lower basins there would be a surplus unapportioned of 4,000,000 or 5,000,000 acre-feet.

The chart which has been shown to the committee and which represents the composite views of several agencies, including the Bureau of Reclamation and the International Boundary Commission, shows the annual run-off as being in the proportion of 18,000,000 acre-feet per year, which would provide an unapportioned surplus of 2,000,000 acre-feet, which is what we will have to operate upon. Nevertheless, the men who drew this compact provided in it that if by treaty or otherwise the United States of America should apportion to the

United Mexican States a quantity of water of the Colorado River, it should come first out of this 4,000,000 or 5,000,000 acre-feet that they estimated would be surplus, and that if that should be insufficient, then the upper basin and the lower basin would contribute in order to make up the deficiency.

I believe that answers the question that the Senator asked a few minutes ago, whether there was any provision for taking any of the A and B water, that is, the 16,000,000 acre-feet that are specifically apportioned.

Senator MILLIKIN. May I ask a question right there? Did you hear Senator McCarran's testimony this morning?

Mr. CLAYTON. Yes, sir; I did.

Senator MILLIKIN. You will remember that he referred to the series of contracts which the Secretary of the Interior entered into to build up the reimbursible features of the project?

Mr. CLAYTON. Yes, sir.

Senator MILLIKIN. Will you please tell us whether those contracts referred back to the compact that you have been reading from?

Mr. CLAYTON. Yes, sir; they do refer back to it; all of them do. The contract with Nevada, the contract with Arizona, and the several contracts with the California interests all condition the delivery of water specified in the contracts upon the availability of that water under the compact and the Boulder Canyon Project Act.

Senator MILLIKIN. So that there is notice in each of those contracts of a possible future situation that might affect the water under those contracts?

Mr. CLAYTON. Yes, sir.

Senator AUSTIN. I would like to ask a question before we get away from this subject. Why should not this treaty in its guaranty to Mexico, follow the priority theory as to making it all subject to the availability of water?

Mr. CLAYTON. In one respect it does, Senator. Of course, you are dealing with two sovereign nations. You could hardly expect Mexico to condition her rights to the waters of the Colorado River upon priorities which are established by the unilateral or ex parte action of the United States. In other words, the theory we are dealing with is either principles of comity or equity or international law or treaty precedents. The purpose of the treaty is to define those rights. They would not be defend if they were made conditional upon the specification of priorities which had been set up in the United States. However, the treaty does contain a provision that in the event of extraordinary drought in the United States or of serious accident to the irrigation system of the United States which makes the delivery of that amount of water to Mexico difficult, the deliveries to Mexico will be diminished in the same proportion as beneficial uses in the United States have to be curtailed.

Senator AUSTIN. That is very fortunate. I did not realize that was in there.

Mr. CLAYTON. Yes, sir; and that provision was patterned after one in the 1906 treaty.

Senator DOWNEY. It is also correct that the treaty would give Mexico a first right upon the entire river, and every other American right would be subservient. Is not that correct?

Mr. CLAYTON. No, sir; no more than, to put it contrarily, that the Mexican right is subservient to all the rest of the waters that are retained by the United States. The two rights are equal. Neither is subservient to the other. Mexico is entitled to 1,500,000 acre-feet of water subject to diminution in times of drought, and the United States has the prior right to 16,500,000 acre-feet of water subject to the same diminution.

Senator DOWNEY. Suppose there is not 16,500,000 acre-feet of water there?

Mr. CLAYTON. If it is the result of extreme drought, the uses in both countries would have to be curtailed. The average would be 18,000,000. Of course over a protracted period of time, if you have a long season of drought, it might drop down below that. If developments in the United States had proceeded to the point where they were using all the water allocated to this country, and it had to curtail those uses, Mexico would have to curtail her uses correspondingly.

Senator DOWNEY. In stating the figure of 18,000,000 acre-feet you are taking the 44-year average, are you not?

Mr. CLAYTON. Of course, as I say, Senator, I am not an engineer. I rely for that figure upon the estimates that have been made over a period of 44 years.

Senator DOWNEY. And you understand that already in those 44 years we have had two decades in which the flow of the river has averaged substantially less than that?

Mr. CLAYTON. Yes.

Senator DOWNEY. And that even with the optimum use of Boulder Reservoir, the useful use in the course of years might fall substantially below 18,000,000?

Mr. CLAYTON. I would call those two periods, periods of extraordinary drought.

Senator DOWNEY. But, nevertheless, it is true that in those two periods the amount available was substantially less?

Mr. CLAYTON. So I understand; yes.

Senator DOWNEY. Possibly not as much as 16,000,000 for final net consumptive use?

Mr. CLAYTON. Probably so. I am not familiar with the figures.

Senator DOWNEY. Would it affect your judgment if the Bureau of Reclamation, in its report, shows that there is a substantial deficit in the amount of water that may be expected in those low decades to fulfill contracts already made by the Secretary of the Interior with Arizona, Nevada, and California—if, as a matter of fact, we already face a deficit, would that affect your judgment?

Mr. CLAYTON. In years to come?

Senator DOWNEY. Yes; in years to come, surely.

Mr. CLAYTON. I was going to discuss those matters in a minute, Senator.

Senator McFARLAND. You spoke of extraordinary drought. Was there any attempt made to come to an agreement as to what would constitute a drought, to spell it out?

Mr. CLAYTON. There was no definition of it, except that if it was such a drought as made it difficult to fulfill the Mexican deliveries.

As I say, that particular provision was patterned after a similar one that is to be found in the treaty of 1906 with Mexico, and, we

experienced no difficulty with that. I do not know that I could give any precise definition of it.

Senator McFARLAND. I could.

Senator JOHNSON of California. Whom do you represent?

Mr. CLAYTON. The International Boundary Commission, Senator.

Senator JOHNSON of California. Are you attorney for the International Boundary Commission?

Mr. CLAYTON. Yes, sir.

Senator JOHNSON of California. For the gentleman who appeared here today?

Mr. CLAYTON. Yes, sir.

Senator JOHNSON of California. And who testified?

Mr. CLAYTON. Yes, sir.

Senator JOHNSON of California. How long have you been attorney for that Commission?

Mr. CLAYTON. I have been there a little over $3\frac{1}{2}$ years, Senator.

Senator JOHNSON. How long?

Mr. CLAYTON. A little over $3\frac{1}{2}$ years.

Senator JOHNSON of California. Do you feel that you are representing Mexico or the United States?

Mr. CLAYTON. Senator, I feel that I represent the United States.

Senator JOHNSON of California. You would give them the best of it, would you?

Mr. CLAYTON. The United States?

Senator JOHNSON of California. Yes.

Mr. CLAYTON. Yes, sir; all I could.

Senator JOHNSON of California. So we can find something here in this statement that you would be in favor of.

Have you seen the Boulder Dam?

Mr. CLAYTON. Yes, sir; I have.

Senator JOHNSON of California. Have you looked at it?

Mr. CLAYTON. Yes, sir; I spent quite some time there.

Senator JOHNSON of California. When?

Mr. CLAYTON. I say, I have spent quite some time there.

Senator JOHNSON of California. Did you observe the works?

Mr. CLAYTON. Yes, sir; I did. I was impressed by them.

Senator JOHNSON of California. You felt that it was a great undertaking, did you not?

Mr. CLAYTON. Yes, I did; magnificent.

Senator JOHNSON of California. That undertaking absolutely complied with its specifications, so far as you could see?

Mr. CLAYTON. Well, I am not an engineer, Senator. I was amazed by the thing. I thought it was wonderful. I know nothing about the technical aspects of it.

Senator JOHNSON of California. I am going to ask you a personal question, now. Are you seeking to destroy that Boulder Dam?

Mr. CLAYTON. No; absolutely not, Senator.

Senator JOHNSON of California. What?

Mr. CLAYTON. Absolutely not. No, sir; I am not.

Senator JOHNSON of California. Well, you are endeavoring to affect it so that it will be ruined, are you not?

Mr. CLAYTON. No, sir; I have no such thought.

Senator JOHNSON of California. I am very glad to hear it.

Mr. CLAYTON. Thank you.

Senator JOHNSON of California. We start, then, with the common premise that we want to preserve the works?

Mr. CLAYTON. Yes, sir. I yield to no one in patriotism, Senator. I think I have my share of patriotism.

The Senator from Colorado asked a question about the contracts—whether they were predicated upon or conditioned upon the Colorado River compact and the Boulder Canyon Project Act. I shall take the liberty to quote a few excerpts from the Palo Verde contract, which provides that the deliveries of water specified therein are—

subject to availability thereof for use in California under the Colorado River compact and the Boulder Canyon Project Act.

Senator MILLIKIN. Are all the contracts, roughly, similar?

Mr. CLAYTON. They all have identical provisions in them to that effect; yes, sir. I just picked this out because I had it handy.

Senator JOHNSON of California. Do you object to that provision?

Mr. CLAYTON. No, sir. I was answering a question, Senator, from the Senator from Colorado as to whether these contracts were conditioned in any way upon the Boulder Canyon Project Act and the Colorado River compact, and I was quoting these excerpts.

Senator JOHNSON of California. Do you find that there is one provision that does?

Mr. CLAYTON. Yes, sir.

Senator JOHNSON of California. You have no objection to that?

Mr. CLAYTON. No, sir; none at all. Another excerpt is—

This contract is made upon the express condition and with the express covenant that the district and the United States shall observe and be subject to, and controlled by, said Colorado River compact in the construction, management, and operation of Hoover Dam, and other works and storage, diversion, delivery, and use of water for the generation of power, irrigation, and other purposes.

ART. XIV. This contract is made upon the express condition and with the express understanding that all rights based upon this contract shall be subject to and controlled by the Colorado River compact—

and it cites the compact.

Senator JOHNSON of California. You are familiar with the Colorado River compact, both from reading it and from your general knowledge, are you not?

Mr. CLAYTON. The compact?

Senator JOHNSON of California. Yes.

Mr. CLAYTON. Yes, sir.

Senator JOHNSON of California. Do you object to it?

Mr. CLAYTON. No, sir.

Senator JOHNSON of California. Do you think that that is fair to Mexico?

Mr. CLAYTON. The compact?

Senator JOHNSON of California. Yes.

Mr. CLAYTON. I do not think Mexico is concerned with the compact. It is purely an internal affair.

Senator JOHNSON of California. I did not catch what you said.

Mr. CLAYTON. I say, I do not think the compact is any affair of Mexico's. I do not think that Mexico is concerned with the Colorado River compact. It is purely an internal affair of the United States.

Senator JOHNSON of California. If Mexico has nothing to do with that compact, why should there be any objection to it?

Mr. CLAYTON. I do not know of any objection, Senator.

Senator JOHNSON of California. All right. Now, are you familiar with the payment of the large sums required to build Boulder Dam?

Mr. CLAYTON. Roughly, yes; I do not have the figures in mind.

Senator JOHNSON of California. You may not be familiar with the fact that some of us went down to a neighboring city and held there a great meeting in favor of that bond issue. Were you familiar with that?

Mr. CLAYTON. I did not catch the last part, Senator.

Senator JOHNSON of California. I asked you if you were familiar with the attempt to put over the great bond issue of southern California for the building of the dam.

Mr. CLAYTON. Yes, I understand that there was such a bond issue.

Senator JOHNSON of California. In that section of the State for more than \$400,000,000? Are you familiar with that?

Mr. CLAYTON. Why, roughly. Senator; yes, sir. As I say, I am not familiar with the figures.

Senator JOHNSON of California. You would be exceedingly careful, would you not, in doing anything that would interfere with the Boulder Dam?

Mr. CLAYTON. Yes, indeed.

Senator JOHNSON of California. What?

Mr. CLAYTON. Yes, sir; I would.

Senator JOHNSON of California. So we did some good there, did we not?

Mr. CLAYTON. Yes, indeed. Yes, sir. It did a great deal of good.

Senator JOHNSON of California. It was a great fight, too.

Mr. CLAYTON. I understand it was.

Senator JOHNSON of California. It took 8 years. Eight long years it took, and all these gentlemen who are speaking here for Mexico forget those 8 long years that it took; and all those gentlemen who are speaking for Mexico are pleading for the payment, I assume, of the money that was paid before there would be construction work on the Boulder Dam by the very progenitors of it. You were familiar with that, were you not?

Mr. CLAYTON. I am not sure that I understood you. I beg your pardon, Senator.

Senator JOHNSON of California. I can understand why the question does not appear clear to you; and the fault was mine, not yours. But what I want to bring out is that those who were the progenitors of the Boulder Dam paid every dollar that should be paid, and that was taken from them by the United States Government. Are you familiar with that?

Mr. CLAYTON. That is, you mean the power contracts underwrote the cost of Boulder Dam?

Senator JOHNSON of California. If I understood you correctly, yes.

Mr. CLAYTON. Yes.

Senator JOHNSON of California. Now, do you think it a fair thing to come here, after that dam has been built and its appropriate works have been built, and they have all been paid for by the private individuals and the taxpayers of a section of the country, and an effort should be made to destroy it here?

Mr. CLAYTON. Well, Senator, you put the question to me in a way that I can hardly answer. If it were true, I would say that would not

be fair. I do not consider that that is the situation. The use of Boulder Dam is——

Senator JOHNSON of California. I assume that you as a reputable practitioner would not wish to see the Boulder Dam, every dollar of payment for which was made by the people of southern California, taken away from them, would you?

Mr. CLAYTON. No, I would not want to at all, Senator—not at all. I do not think Boulder Dam is involved in this at all. If it is, it is only incidentally.

Senator JOHNSON of California. Only incidentally?

Mr. CLAYTON. Yes, sir.

Senator JOHNSON of California. But when it is involved incidentally, it comes very close to be involved otherwise?

Mr. CLAYTON. The point I have sought to make is that at present there are some eight or nine million acre-feet of water on the average every year that is being released from that dam in excess of the needs of the United States. That water flows into Mexico, and Mexico is using that water. Most of that eight or nine million acre-feet is flowing unused into the Gulf of Mexico.

Senator JOHNSON of California. Do you know what land is affected by the buildings and the structures of Boulder Dam?

Mr. CLAYTON. What lands are affected?

Senator JOHNSON of California. Yes, and appurtenances.

Mr. CLAYTON. Do you mean the lands that are under irrigation below Boulder Dam?

Senator JOHNSON of California. Yes.

Mr. CLAYTON. Yes, sir; I know about them.

Senator JOHNSON of California. Are those lands that are appropriated under the Boulder Dam and for which the taxpayers of the United States are paying now? Would you have them ruined or stricken in any way?

Mr. CLAYTON. No, sir. My thought was that the pending treaty—the treaty now pending before this committee—would serve to make the rights of those lands more secure. If we did not think so, I do not think anybody who had any hand in this treaty on behalf of the United States would have written the treaty the way it is.

Senator JOHNSON of California. You think we will do them a favor by telling them how to go on with the construction that they have undertaken and how to go on to the completion, if any part of it requires completion, of the Boulder Dam, do you not?

Mr. CLAYTON. Yes, indeed.

Senator JOHNSON of California. Whence comes the water of the Colorado?

Mr. CLAYTON. Why, it comes almost entirely, Senator, from six of the Basin States. I think the largest contributor is Colorado, with around 65 percent. I do not have the percentages in mind now, but I believe they have been introduced in evidence.

Senator JOHNSON of California. It is a very large percentage?

Mr. CLAYTON. Sir?

Senator JOHNSON of California. It is a very large percentage?

Mr. CLAYTON. It is a very large percentage from where?

Senator JOHNSON of California. I cannot think of the name.

Mr. CLAYTON. Colorado?

Senator JOHNSON of California. Yes.

Mr. CLAYTON. A very large percentage comes from the State of Colorado.

Senator JOHNSON of California. Now, did you know the Boulder Dam as it existed prior to any water being taken from it?

Mr. CLAYTON. Do you mean have I seen Boulder Dam when it was full? I do not recall what stage the water was when I saw the dam. It seemed to be pretty nearly full.

Senator JOHNSON of California. Do you remember the opinion rendered by Justice Harmon?

Mr. CLAYTON. Yes, sir; I do.

Senator JOHNSON of California. Do you remember its findings and conclusions?

Mr. CLAYTON. Yes, sir; I do.

Senator JOHNSON of California. What did it hold?

Mr. CLAYTON. The opinion held that the United States owed no obligation to a lower riparian State; that it exercised exclusive sovereignty over the waters within its own borders.

Senator JOHNSON of California. That it had exclusive jurisdiction over the waters?

Mr. CLAYTON. That is what the opinion held; yes, sir.

Senator JOHNSON. I presume you do not agree with that?

Mr. CLAYTON. No, sir; I do not agree with it. The United States apparently did not agree with it in two treaties that followed. The opinion was rendered with respect to the controversies with Mexico over the waters of the Rio Grande above Fort Quitman, and despite that opinion the United States entered into a treaty with Mexico, which gave to Mexico the quantity of water which was the maximum she had at anytime theretofore used.

Senator JOHNSON of California. Were those treaties carried out?

Mr. CLAYTON. Yes, sir; they are being carried out. There is another one on the Canadian boundary somewhat similar.

Senator JOHNSON of California. But the legal opinion has never been questioned, has it?

Mr. CLAYTON. It has never been followed, Senator.

Senator JOHNSON of California. How do you know?

Mr. CLAYTON. Well, there is attached to the statement, Senator, that you have before you a digest of the only treaties I have been able to find on the subject of division of waters of international streams. In every one of those treaties they start out, first, with the principle of protecting uses that were existing at the time the treaty was negotiated. That is the starting point. In most of them they went further than that and made provision for expansion.

Senator JOHNSON of California. I do not understand you. Will you repeat that, please?

Mr. CLAYTON. I say, Senator, that Attorney General Harmon's opinion has never been followed either by the United States or by any other country of which I am aware. I say that in this statement that you have before you I have made an attempt to digest the international treaties on this subject—or all that I could find. There may be more. I am not infallible. But in all those I have been able to find, the starting point seemed to be the protection of the existing uses in both the upper riparian country and the lower riparian country, without regard to asserting doctrine of exclusive territorial sovereignty. Most of them endeavor to go further than that and to make provision for

expansion in both countries, both upper and lower, within the limits of the available supply.

Now, I have here a quotation from a very respected writer on international law, which mentions the Harmon opinion, if you would be interested in having me read it. It represents, I think, the consensus of the writers of international law on the subject. If you would be interested, I should be glad to read it, otherwise I shall not.

Senator JOHNSON of California. Will you give me the citation, please?

Mr. CLAYTON. This was a text writer, Senator, that I was mentioning, a writer on international law.

Senator JOHNSON of California. Yes. Just give me the title of it.

Mr. CLAYTON. This is what Mr. Herbert Arthur Smith, who is a professor of law in the University of London, had to say in his work entitled "The Economic Uses of International Rivers."

Senator JOHNSON of California. He is not professor of law at the University of Mexico?

Mr. CLAYTON. No, sir. Would you care to have the excerpt?

Senator JOHNSON of California. No; I should like to have just the title.

Mr. CLAYTON. That is the title, Senator: The Economic Uses of International Rivers, published in 1931.

Senator JOHNSON of California. This international lawyer held contrary to Justice Harmon?

Mr. CLAYTON. He did not undertake to hold either way. He simply expressed an opinion that found expression in other treaties.

Senator JOHNSON of California. Was his opinion contrary to that of Harmon's?

Mr. CLAYTON. Yes, sir; it was.

Senator JOHNSON of California. What others have you?

Mr. CLAYTON. Well, that is the only one I quote from—the only text writer that I quote from. I have other treaties; and, of course, there are decisions of the United States in controversies between the States themselves, the States, of course, being sovereign in those matters in which they have not surrendered sovereignty to the Federal Government. For instance, in water matters that deal with sovereign States the States compact with one another, and they litigate in the Supreme Court.

Senator JOHNSON of California. You would hold him above them, would you not?

Mr. CLAYTON. Well, I would hold decisions of my own country above anybody.

Senator JOHNSON of California. Well, were those from other countries?

Mr. CLAYTON. Two of the treaties are from this country, the rest of the treaties are from other countries. The decisions which I mentioned are decisions of the Supreme Court of the United States.

Senator JOHNSON of California. And they are contrary to Harmon?

Mr. CLAYTON. Yes, sir; they are all contrary to Mr. Harmon.

Senator JOHNSON of California. Now, when were they rendered?

Mr. CLAYTON. In the Supreme Court of the United States, I believe the earliest decision—if not the earliest, it was the earliest principal decision—was in 1906, the *State of Kansas v. the State of Colorado*.

Senator JOHNSON of California. In what year?

Mr. CLAYTON. 1906.

Senator JOHNSON of California. For Heaven's sake! That was a considerable time after Harmon wrote his opinion; was it not?

Mr. CLAYTON. Yes, sir; it was. All the decisions since that time have followed the Supreme Court in that case.

Senator JOHNSON of California. Well, you would not give to that a very great importance, would you?

Mr. CLAYTON. The opinion of the Supreme Court in *Kansas v. Colorado*? Yes; I attach a great deal of importance to it. It has been followed in subsequent cases.

Senator JOHNSON of California. Yes; but that was long prior to the opinion rendered by Justice Harmon.

Mr. CLAYTON. No, no, sir; I think it followed Harmon's opinion.

Senator JOHNSON of California. It followed Harmon's opinion?

Mr. CLAYTON. Yes, sir. I mean it followed in point of time; it did not follow the holding of the Harmon opinion.

Senator JOHNSON of California. Well, there may have been a difference in politics.

Mr. CLAYTON. Perhaps so, Senator.

Senator JOHNSON of California. Oh, we have those.

Mr. CLAYTON. I understand. I am not versed in them, but I know about them.

I think about the Harmon opinion as Mr. Smith does. He says that Harmon's attitude seems to have been merely the opinion of the ordinary lawyer who is determined not to concede unnecessarily a single point to the other side. I think that if I had been in the Attorney General's place I would probably have written the same opinion on behalf of my client. There was very little precedent at that time, Senator.

Senator JOHNSON of California. Do you say it was not a fair expression?

Mr. CLAYTON. No, sir; I do not say that. It was the attitude of the lawyer who is representing a client and who naturally takes the client's side.

Senator JOHNSON of California. We have all run across that. You may have run across the same situation.

Mr. CLAYTON. Yes, sir.

The CHAIRMAN. Just as a matter of information, Mr. Harmon, as Attorney General, went out of office not later than 1897, as I recall it.

Mr. CLAYTON. I was under the impression, Senator, that his opinion was rendered in 1898. It was along about that time.

The CHAIRMAN. McKinley became President in 1897. Cleveland went out in March 1897. So it was bound to have been antecedent to that date, because Harmon was not Attorney General any longer.

Mr. CLAYTON. You are right, Senator; it was 1895.

Senator MILLIKIN. I believe it would be useful if Mr. Clayton told us the gist of the Colorado-Kansas decision.

The CHAIRMAN. We would be very glad to have it.

Mr. CLAYTON. In that case, the State of Kansas and the State of Colorado got into a controversy over the waters of the Arkansas River. The Arkansas River lies in both States. The State of Colorado contended that she had absolute sovereign right to dispose of the waters within her own boundaries as she saw fit and without regard to the interests of the lower riparian States.

The Supreme Court of the United States held that that was wrong and applied what is called the principle of equity or comity. The gist of the opinion by Mr. Justice Brewer is this. I quote this simply for the reason that as between the States this water question is substantially the same as between sovereign nations, because the States are sovereign to the extent that they have not surrendered their sovereignty to the Federal Government under the Constitution, and this is one thing they have not surrendered.

Senator JOHNSON of California. Do you not say that that is today involved?

Mr. CLAYTON. It may be, Senator. Mr. Justice Brewer said:

As Congress cannot make compacts between the States, as it cannot, in respect to certain matters, by legislation compel their separate action, disputes between them must be settled either by force or else by appeals to tribunals empowered to determine the right and wrong thereof. Force, under our system of government, is eliminated. The clear language of the Constitution vests in this Court the power to settle those disputes. We have exercised that power in a variety of instances, determining in the several instances the justice of the dispute. Nor is our jurisdiction ousted, even if, because Kansas and Colorado are States sovereign and independent in local matters, the relations between them depend in any respect upon principles of international law. International law is no alien in this tribunal.

* * * * *
One cardinal rule, underlying all the relations of the States to each other, is that of equality or right.

Senator JOHNSON of California. Do you not see that that is a very different opinion from the opinion rendered by Justice Harmon?

The CHAIRMAN. That is what he is trying to show—that there is a difference of opinion.

Mr. CLAYTON. Of course, the ruling is diametrically opposite. The ruling does not follow the Harmon opinion. If they had followed the Harmon opinion, they would have held that Colorado had the right to do with the waters within her borders as she saw fit without regard to the lower State; but they held just the opposite of that and said that in determining those matters as between States, just as they would determine them between foreign countries, they put them on a basis of equality of right and tried to protect the substantial interests of each, whether you call it equity or comity, or whatever it is.

Senator JOHNSON of California. But there is a difference between two States at variance on a boundary line and a point where the water may have come from. You see that, do you not?

Mr. CLAYTON. I had not thought, Senator, there was any difference. I suspect from the language of the Supreme Court, from the time of the *Kansas* versus *Colorado* decision down to the present, that if they had jurisdiction over international disputes, they would apply precisely the same formula. Now, as I say, I speak as a lawyer, and that is my opinion; but that is what I gather from the cases.

Senator JOHNSON of California. That is a good, reasonable opinion. We all would not agree with that. If a judge in deciding a question decides it in our favor, we all agree.

Mr. CLAYTON. Yes, sir. Whether it is our way or not, we say it is the law.

Senator JOHNSON of California. When it is not our way, why, we are compelled to go out in back of the courthouse and indulge in language that is not fit to eat.

Mr. CLAYTON. That is right; yes, sir.

The CHAIRMAN. Have you concluded the opinion, or do you want to finish it?

Mr. CLAYTON. I have concluded the substance of it, yes, Senator.

The CHAIRMAN. Does that answer your question, Senator Millikin?

Senator MILLIKIN. I think it should be added that the equality of right referred to is not a mathematical equality; it is an equality resting on equitable adjustment.

Mr. CLAYTON. That is right. In any event, to get down to the resumption of negotiations between the United States and Mexico, after the abolition of the old International Water Commission, and particularly after Boulder Dam had been placed in operation, the developments in both countries, both in the United States and Mexico, were rapid. It was felt, at least in the majority of the Colorado River Basin States, that some limit should be put upon the Mexican development, in order that they would know the bounds within which they could proceed with their own development.

Senator JOHNSON of California. Is it upon any such theory as that that you keep the distinction in mind?

Mr. CLAYTON. That I keep what distinction in mind, Senator?

Senator JOHNSON of California. You are dealing with the water question, with the opinion of the learned judge, and you have reached the conclusion that you feel that they are all wrong?

Mr. CLAYTON. That Attorney General Harmon is wrong?

Senator JOHNSON of California. Yes.

Mr. CLAYTON. Of course, my views about that are influenced by the fact that no treaty that I know of has followed his opinion—no treaty, even, in which the United States was a party—and no court has followed his opinion.

Senator JOHNSON of California. Well, you have reached the opinion that that was wrong?

Mr. CLAYTON. Yes, sir; I have.

Senator JOHNSON of California. Do you think you could correct it here?

Mr. CLAYTON. In this case, Senator, to be brief about it, I think that the United States has secured for itself the best possible bargain that it can, a bargain that has advantages to every State in the Union and to California itself.

Senator JOHNSON of California. What would you do with all those improvements that have been made and with all the money expended—some \$600,000,000 spent by one municipality? What would you do with that?

Mr. CLAYTON. It is not affected at all, Senator, unless the situation is helped. The treaty does not affect that situation, Senator.

Senator JOHNSON of California. It does not affect it at all?

Mr. CLAYTON. If it affects it at all, it does in that, in my opinion, it makes the rights of the Americans more secure, because they know just how far they can go, and that is something they have never known before.

Senator JOHNSON of California. Have you read the powers of the Commission?

Mr. CLAYTON. Yes, sir; I have read them many times.

Senator JOHNSON of California. You think that they do not affect at all the proposition that may be pending before us?

Mr. CLAYTON. No, sir; I do not think they do.

The CHAIRMAN. At this point, if I may interject, I should like to ask what is the will of the committee about recessing now? It is 4:30.

(There was a discussion off the record.)

The CHAIRMAN. Without objection, we will recess now and meet in the Finance Committee room tomorrow at 2:30 p. m.

Can you be here, Mr. Clayton, to finish your testimony then?

Mr. CLAYTON. Yes, sir.

The CHAIRMAN. Very well.

(At 4:30 p. m. an adjournment was taken until Wednesday, January 24, 1945, at 2:30 p. m.)

WATER TREATY WITH MEXICO

WEDNESDAY, JANUARY 24, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington D. C.

The committee reconvened at 2:30 p. m. in the hearing room of the Committee on Finance, Senate Office Building, Senator Tom Connally (chairman) presiding.

Present: Senators Connally (chairman), Thomas of Utah, Lucas, Guffey, Tunnell, Johnson of California, La Follette, Capper, and Austin.

Also present: Senators Downey, Hayden, McFarland, and Murdock.

(The committee resumed its consideration of the treaty with Mexico relating to the utilization of the waters of certain rivers.)

The CHAIRMAN. Let the committee come to order. Mr. Clayton, come around, please. You had not concluded your statement yesterday, as I recall. You may proceed, taking up where you closed.

STATEMENT OF FRANK B. CLAYTON, COUNSEL, AMERICAN SECTION, INTERNATIONAL BOUNDARY COMMISSION—Resumed

Mr. CLAYTON. Mr. Chairman and members of the committee, when we recessed yesterday afternoon I had been talking about the immediate negotiations that led up to the signing of the present treaty, and I had mentioned that after the abolition of the old Mead Commission, in 1932, the functions of that commission were transferred to the International Boundary Commission, or the American section of the International Boundary Commission which was founded under the treaty of 1889 with Mexico.

In 1935 the Congress passed an act which was designed to facilitate the studies and investigations to be used as the basis for the negotiation of a treaty with Mexico. That act authorized the International Boundary Commission, or the Secretary of State acting through the International Boundary Commission, to conduct investigations and surveys in cooperation with Mexico on the waters of the three international streams—the Colorado, the Tijuana, and the Rio Grande below Fort Quitman, Tex.; and it was largely under the authority of that act that the studies and investigations were carried on and the data collected that laid the predicate for the formulation of the terms of the pending treaty.

In the meantime a committee had been formed among the Colorado River Basin States which was known as the Committee of Fourteen and the Committee of Sixteen. It was composed of two representa-

tives from each of the seven Colorado River Basin States and two from the power interests; the general purpose of that committee being to give consideration to all the problems that arose concerning the Colorado River.

The State Department, in carrying on its negotiations with Mexico, and before they were carried on, worked in close cooperation with that committee, and they held a series of meetings with the Committee of Fourteen and the Committee of Sixteen. They held a meeting in Santa Fe, N. Mex., in April of 1943, almost 2 years ago. At that time the State Department presented to the Committee of Fourteen and the Committee of Sixteen a proposed formula which it was proposed would be used as the basis for negotiations with Mexico for a treaty relating to the Colorado River. Under that formula, which differs in some respects from the provisions of the present treaty, the engineers' estimate that it would have given to Mexico a quantity of water somewhat in excess of the 1,500,000 acre-feet finally allotted to Mexico as the result of the negotiations. That formula was approved by the Committee of Fourteen and the Committee of Sixteen, at the meeting in Santa Fe in April 1943, by a vote of five States to one; California dissenting and Nevada not voting, and the representatives of the power interests voting against the proposition.

In addition to the resolution approving the formula there were adopted two other resolutions. One of those resolutions stated, in substance, that consideration should be given to the use of certain facilities within the United States in making deliveries of water to Mexico, and that consideration should be given to various points of delivery, along the border, of Colorado River waters.

Among the facilities which were specifically mentioned in the resolution for consideration of the Department of State was the Davis Dam which had not yet been constructed but which the Congress had authorized, the Imperial Dam, where the waters for the All-American Canal are diverted, and the All-American Canal itself, from Imperial Dam down to the Pilot Knob wasteway, which was pointed out to the committee on a chart yesterday, I believe; and certain other places were mentioned, I believe, among them the wasteway from the Yuma project which goes across the land boundary into Mexico, south of Yuma, Ariz.

It was also recommended in the resolution that was adopted by that committee that the United States maintain ownership and control of all facilities which were to be used in whole or in part for the delivery of Mexican water, and it called attention to the necessity of certain flood-control works on the Colorado River below Boulder Dam, which might consist of levees, a dam on the Gila River, river rectification works, and the like.

Following this meeting, and on the basis of the resolutions that were adopted by the Committee of Fourteen and Committee of Sixteen, the negotiations with Mexico were actively resumed.

Prior to these negotiations the Boundary Commission had assembled a great mass of data which were used in negotiating the treaty. These data were assembled partly by the Boundary Commission itself, under the authority of the act of 1935, and partly from other agencies, Federal, State, and local, among them the Bureau of Reclamation.

The terms of the treaty were formulated in conferences which were held in El Paso, Tex., and Ciudad Juarez, Mexico, across the Rio Grande, from the early part of September to the latter part of December 1943. Those conferences were participated in by representatives of the Ministry of Foreign Relations of Mexico, the Department of State of the United States, and both sections of the International Boundary Commission, assisted by technical advisers, and from time to time during the negotiations other agencies were consulted, principally the Bureau of Reclamation, with respect to the waters of the Colorado and the works under the jurisdiction and control of that Bureau on that river.

Senator JOHNSON of California. Do you represent the Reclamation Bureau?

Mr. CLAYTON. No, sir; I am the attorney for the American section of the International Boundary Commission, Senator.

Senator JOHNSON of California. Is that all?

Mr. CLAYTON. That is all; yes, sir.

To get down to the terms of the treaty which was signed February 3, 1944, about a year ago, I want to speak first about the allocation to Mexico of the waters of the Colorado River, which has already been mentioned by Mr. Lawson as being 1,500,000 acre-feet of water a year, which is subject to diminution in those times when, because of severe drought conditions in the United States, or because of accident to the irrigation system in the United States, it is difficult for the United States to comply with its obligation to deliver that amount of water to Mexico.

Senator THOMAS of Utah. What do you mean by an accident to the irrigation system?

Mr. CLAYTON. It is conceivable that there might be some accident to Davis Dam, which is to be the regulatory reservoir to regulate Mexico's water at the boundary; or as far as deliveries to the All-American Canal are concerned, there might be some damage to the Imperial Dam, or there might be damage to the canal itself, which would necessitate suspending deliveries through that canal until repairs were made.

Senator McFARLAND. You said yesterday that you had not had any trouble with those words, "times of severe drought conditions," in the treaty. Would you mind explaining what experience you have had in that regard on the Rio Grande?

Mr. CLAYTON. The one that comes to my recollection immediately—I was not connected with the Boundary Commission, but I was representing a water district on the Rio Grande that was served from Elephant Butte—was in 1935, following a period of drought, when there was not enough water to begin with in the spring of that year to make all the deliveries that were called for in the Rio Grande project in the United States—in New Mexico and Texas. Consequently, notice was served upon Mexico that her deliveries during that period would be correspondingly curtailed; and they were curtailed.

In the spring of that year there was sufficient run-off so that finally the deliveries did not have to be further curtailed; and I believe that, starting in July of that year, the full deliveries were made both to American lands and Mexican lands, but for a period of several months deliveries to Mexico were curtailed.

Senator McFARLAND. Using that same gage, would you say that if there was not sufficient water in the dams on the Colorado River to supply those having water rights in the United States, and there was not sufficient water at the beginning of the year to supply those demands, notice would be given and that would be considered a drought?

Mr. CLAYTON. Yes, sir; if it was the result of a drought; and it would be, of course, if there was insufficient water in the reservoirs.

Senator AUSTIN. Is there anything peculiar about these three rivers that makes it inconvenient to establish a datum which shall govern the definition of drought? Is there anything queer about those rivers?

Mr. CLAYTON. No; I don't think so, Senator. As a matter of fact, the determination of what constitutes a drought probably will actually be made by the Bureau of Reclamation, because they keep the data in connection with the Geological Survey and they operate Boulder Dam and Davis Dam and the works below.

Senator AUSTIN. There ought not to be any question about what is a drought?

Mr. CLAYTON. No, sir.

Senator AUSTIN. You have hydrographs and all kinds of records on which you can base a clear and well-established definition of what is a drought, have you not?

Mr. CLAYTON. Yes, sir.

Senator McFARLAND. Along that line, though, would that provision apply if you had a drought, say, in 1946, and you happened to have a great deal of run-off the preceding year and had plenty of water in storage?

Mr. CLAYTON. Of course, there are two conditions, Senator. The first is that there was a drought; and the second is that, as a result of it, uses within the United States have to be curtailed, and then the deliveries to Mexico will be curtailed in the same proportion.

Senator McFARLAND. Was there any negotiating at all in regard to setting up and spelling that out as to what a drought is—how much water would have to be on hand before it would be considered a drought?

Mr. CLAYTON. No, sir. Any actual determination will be made here in the United States, because here is where the records are kept and here is where the water is. However, I think in practical effect it would work out this way: We have a measuring stick furnished by the Colorado River compact that obligates the upper basin to deliver to the lower basin in 10-year progressive series 75,000,000 acre-feet of water every 10 years. The drought, of course, would be felt first in the upper basin. That is where the rainfall and snowfall are primarily, and the effects would be felt there first. If that represented such a drought that they had to curtail deliveries to the lower basin, I would say that was a drought within the meaning of the compact and that deliveries to Mexico would be diminished correspondingly. The drought does not have to occur simultaneously in all portions of the basin. It is sufficient if it occurs in any portion and results in the curtailment of usage.

The CHAIRMAN. In the case he asked you about, where there was plenty of water in storage, it would not apply, for the simple reason that though you may have had a drought, it did not result in curtailment in the United States.

Mr. CLAYTON. It would not result in curtailment in the lower basin, Senator, because the impounded water would take care of that; but it might be felt in the upper basin.

Senator McFARLAND. Going back to my other question, I did not let you complete your answer, I believe. Did Mexico make any objection to the interpretation you gave as to what was a drought on the Rio Grande?

Mr. CLAYTON. We undertook no interpretation, because we relied upon the 1906 treaty. Furthermore, we had a somewhat similar provision that applies to Mexico—

Senator McFARLAND. I am talking about when notice was given Mexico—did she object to the water being curtailed?

Mr. CLAYTON. No, sir. That was no controversy about it, because it was a simple fact.

Senator McFARLAND. Was there any curtailment? I believe you said that rains came before the season was over.

Mr. CLAYTON. Before it was over; but there was a curtailment in the early part of the season, and that happened again in another year or two. I do not have the years in mind, but that did happen on two or three different occasions, and no objection was raised by Mexico.

Senator McFARLAND. Thank you.

Mr. CLAYTON. And then there is another provision in the treaty here, that when, as determined by the American section of the Commission—not the Mexican section, but the American section—there is enough water to give Mexico more than 1,500,000 acre-feet, the amount delivered to Mexico can be increased up to a maximum of 1,700,000 acre-feet. For many years there is going to be more than that amount of water running down the river, just as there is eight or nine million acre-feet running down into the Gulf right now and wasting. If during that period of time, as determined by the American section, there is a sufficient amount of water to give them 1,700,000 acre-feet, according to schedule, that will be done.

There is another provision that seems to occasion some misunderstanding or difficulty. The treaty provides for the allocations of water to Mexico from the Colorado; that is, article 10, "of the waters of the Colorado River from any and all sources", there is allotted to Mexico 1,500,000 acre-feet, subject to diminution in time of drought.

Senator JOHNSON of California. You are reading from the treaty that is presented here for action?

Mr. CLAYTON. Yes, sir. In article II it is provided that the United States shall deliver all waters allotted to Mexico wherever these waters may arrive in the bed of the limitrophe section of the Colorado River, with the exception of that through the All-American Canal and the small portion delivered over the land boundary near San Luis.

What is the significance of those words, "from any and all sources," and "wherever these waters may arrive"?

The representatives of the United States insisted upon those words in the treaty. They were objected to by Mexico, for the simple and obvious reason that the United States wanted to secure credit for all water of any kind, wherever it might come from, that actually flowed across the boundary line, whether it was drainage water from projects within the United States or whether it was used for sluicing upstream and could not be put to beneficial use below, or flood waters, or waste waters of whatever kind.

The CHAIRMAN. Is that what you call the backflow?

Mr. CLAYTON. The return flow that gets back into the river.

Senator MURDOCK. If the treaty is ratified, is there any distinction at all as to the waters that are allocated to Mexico and those that are allocated to the upper and lower basin?

Mr. CLAYTON. There is no distinction in the treaty, Senator. Of course, there will be a difference in the quality of the water.

Senator MURDOCK. I am not referring to the quality of the water but merely to the quantity. As I understand you, the water that is allocated to Mexico under the treaty will have the same priority as waters apportioned to the upper and lower basin.

Mr. CLAYTON. Well, I would not speak about waters apportioned to the upper and lower basin. The rights of the United States and Mexico are equal.

Senator MURDOCK. It means the same thing?

Mr. CLAYTON. Yes, sir.

Senator MURDOCK. So that all rights apportioned or allocated to the United States and those allocated to Mexico are on an equality?

Mr. CLAYTON. Yes, sir.

Senator MURDOCK. The question I have in mind is this: Suppose that the use of water in the upper basin has to be curtailed over a 10-year period in order to deliver to the lower basin 75,000,000 acre-feet, so that there is an actual curtailment of the use in the upper basin—must there also be a curtailment of use in the upper basin to supply that part of the water that goes to Mexico?

Mr. CLAYTON. Of course, when you speak of any and all sources, as far as the obligation to Mexico is concerned it is immaterial where the water comes from. If you are speaking about a curtailment in the upper basin as a result of drought conditions, as ordinarily it would be, then, of course, there will be a curtailment also of the deliveries to Mexico.

Senator MURDOCK. You did not get my question. The question I have in mind is that if the upper basin has to curtail its use in order to meet its obligations to the lower basin, must it also curtail sufficiently to take care of its part of the water that goes to Mexico?

Mr. CLAYTON. I would not think that would necessarily follow, Senator, but this is a matter involving interpretation of the compact rather than the treaty.

Senator MILLIKIN. On page 70 of this book which is before us it says:

The reduction in deliveries to Mexico, however, will be proportionate to the over-all reduction of consumptive uses in the United States.

I believe that answers your question.

Senator MURDOCK. It seems to me that under that statement the answer given by the witness hardly squares with the statement that you read.

Senator MILLIKIN. That is why I read that.

Mr. CLAYTON. I did not intend any differentiation. If there is a curtailment of use anywhere in the basin as a result of drought, that is the condition—

The CHAIRMAN. If there is no drought there would be a normal supply of water, would there not?

Mr. CLAYTON. Yes, sir.

Senator MURDOCK. I am not afraid of the periods when there is a surplus. The crucial thing in this treaty is the years when there is a drought. When there is plenty of water, nobody cares; the question becomes academic. But when there is not enough water, then the question in my mind is who loses? Where does it come from? How do we get the water down to Mexico?

Mr. CLAYTON. There is no obligation to deliver all of the allocation to Mexico when there is a curtailment of use anywhere in the United States. The Mexican deliveries will be curtailed, too.

Senator MURDOCK. I understand that, but they will only be curtailed or diminished as our waters in the United States are diminished. Of course, you have answered my question that, in your opinion, the upper basin would not have to curtail its use in order to supply any deficiency to Mexico.

Mr. CLAYTON. No, sir. The obligation of the upper basin is naturally based upon the Colorado River compact. That is the extent of its obligation, but of course it has to make up that deficiency in the next cycle, as I understand it.

Senator DOWNEY. You have repeatedly used the expression "any curtailment by reason of drought." That is not a correct expression, is it? It is "extraordinary drought."

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. Will you now tell us how you distinguish between the expression "drought" and "extraordinary drought"?

Mr. CLAYTON. I would say an extraordinary drought would be like the two periods that have been referred to in the testimony, extending over a period of years, where the average supply was materially reduced, just as in the case of the Rio Grande above Fort Quitman and the Elephant Butte Reservoir, where, because of a period of two or three successive years of drought there had to be a reduction in United States uses. I treat the two as being almost identical. That is, if the drought results in curtailment of uses, it is an extraordinary drought, because ordinarily you can tide yourself over by means of storage.

Senator DOWNEY. You would consider that an extraordinary drought would exist, then, when it would not be possible in the lower basin States for the owners of contract rights already granted from the United States to secure sufficient water to satisfy those rights?

Mr. CLAYTON. I would not predicate it on the contract rights; I would predicate it upon the consumptive uses in the United States. It is quite possible that contracts might be made that would over-appropriate the waters of the stream.

Senator MURDOCK. Have you interpreted the compact as to what a beneficial consumptive use is?

Mr. CLAYTON. I think there is such a definition in the Boulder Canyon Project Act. I would not undertake to define it myself, not being an engineer; but as I understand it, consumptive use is the amount of water that is diverted less that which is returned to the stream. In other words, the water that is consumed, and the rest of it goes back into the stream. It might be consumed as a result of evaporation, seepage, or plant transpiration.

Senator MURDOCK. But, so far as the diversion is concerned, if a million acre-feet is diverted, let us say, in the lower basin, and 100,000

is returned as return flow, then the water actually consumed would be 900,000 acre-feet?

Mr. CLAYTON. That is correct.

Senator MURDOCK. That is what you consider as the water beneficially consumed under the compact?

Mr. CLAYTON. Yes, sir. I hesitate to interpret the compact.

Now, to get back to the words "from any and all sources" and "whatever their origin," those words were inserted by the American representatives in this treaty to insure that the United States would get credit for all kinds of water, whether it was green water or clear water or any other kind of water, whether drainage or fresh, that actually found its way to Mexico, that might come into the main stream, in the boundary portion, from Arizona, for instance, but still the United States would be entitled to credit for it.

Senator DOWNEY. May I interrupt with a question there?

The CHAIRMAN. Yes.

Senator DOWNEY. Mr. Clayton, you have stated that it was the purpose of this treaty to work out an arrangement so that the water that Mexico received in the Colorado River should be charged to her against this 1,500,000 acre-feet of water?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. Do you think you have worked that out?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. Do you think you have successfully worked it out so that any return water to Mexico at her boundary will be credited to the 1,500,000 acre-feet of water?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. If you have not worked that out in the treaty, then the treaty has not been worked out as you anticipated; is that right?

Mr. CLAYTON. I base this upon the opinions of the engineers, you understand, Senator. The deliveries to Mexico are to be made according to schedules of delivery which are to be furnished by Mexico annually in advance. Those schedules of delivery have a minimum amount for various months of the year, and they have a maximum amount for various months of the year. In working out those minimum and maximum amounts the engineers have made a study of return flows now and those which might be expected under full development in the United States in the future.

Senator McFARLAND. Who are the engineers?

Mr. CLAYTON. You mean, specifically, by name?

Senator McFARLAND. Yes.

Mr. CLAYTON. The engineers for the International Boundary Commission were the consulting engineer, Mr. C. M. Ainsworth, and the hydraulic engineers, Mr. Robert Lowry and Mr. Karl F. Keeler, and consulting engineer, Mr. R. J. Tipton; and prior to these negotiations we had Mr. J. L. Burkholder, who is now with the city of San Diego, but who was an engineer with the Commission during the time that these figures were being compiled.

Senator McFARLAND. Are they going to testify and give us the engineering data?

Mr. CLAYTON. The engineering data will be furnished by Mr. Ainsworth and Mr. Lowry, for the Commission. I understand that Mr.

Tipton, who was our consultant at that time, will testify on behalf of the six States who are supporting ratification of the treaty. Of course, there were a number of hydrographers and others whom I cannot call by name, who also took part in this; and we also used the figures that were furnished by the United States Geological Survey and the Bureau of Reclamation.

Senator DOWNEY. As I recall the terms of the treaty—and I may be inaccurate, and I wish you would check me—in the 5 winter months of January, February, October, November, and December, Mexico has to use, out of her allocation, at least 600 second-feet a day is that right?

Mr. CLAYTON. That is, in the river, Senator.

Senator DOWNEY. Yes. The proportions are just about the same, so do not let us complicate it.

Mr. CLAYTON. Pardon me, Senator. That is up until January 1, 1980. After that time it is different.

Senator DOWNEY. Let us not go beyond that. I want to make this as simple as I can, so that we can understand it.

In the 5 winter months Mexico is only obligated to use 600 second-feet a day; is that right?

Mr. CLAYTON. That is correct; in the river.

Senator DOWNEY. In the summer months she can use up to 3,500 second-feet a day?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. Manifestly in the 7 summer months she can use seven or eight times as much water as she has to use under the treaty in the 5 winter months. That is right, is it not?

Mr. CLAYTON. During the summer months the prescribed rate of delivery shall be not less than 1,000 cubic feet—I am talking about up to 1980—nor more than 3,500 cubic feet per second.

Senator DOWNEY. Suppose she wanted to take the 3,500 second-feet a day during the summer months: Would she have a right to do that under the treaty?

Mr. CLAYTON. If that fitted her current pattern of use.

Senator DOWNEY. She would have a right to do it, would she not?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. Will you tell us, then, and make the calculation yourself, in the 7 months—

Mr. CLAYTON. Senator, this calculation is a little bit out of my domain.

Senator DOWNEY. Each second-foot of water produces 2 acre-feet a day.

Mr. CLAYTON. There will be engineers who will immediately follow me and who will testify on those points; and I would much prefer that you direct your question to them.

Senator DOWNEY. Would you not say it was probable, with this water spread over a vast area of irrigation, that we could guess that the return flow would be about equal every month in the year? Would not that be a good guess?

Mr. CLAYTON. Speaking as a lawyer, I would not think so. I would think there would be more in the summer months, when we were irrigating, than there would be in the winter months.

Senator DOWNEY. I will agree that it is merely a guess by anybody. I do not think anybody has made the studies by which they can speak

with any degree of truth as to the amount of water that will come back or the months in which it will come back; but suppose it did, as a matter of ultimate fact, after all these projects are completed, come back in equal amounts over the whole year; let us assume that would be true; then is it not true that Mexico, by ordering the bulk of her water in the summer months, could build up an additional three or four or five hundred thousand feet of water from underground sources in the other months that would not be charged to her, providing that the opinion expressed by Mr. Lawson is correct, that the return waters may go up to 1,000,000 acre-feet? Is not that perfectly obvious?

Mr. CLAYTON. You are beyond me, Senator. I am a lawyer; these schedules of minimum and maximum deliveries were worked out by engineers whom I believe to be competent, and they were based upon records. It is their opinion that the restrictions that have been placed upon these schedules are ample to secure to the United States credit for practically all the return and waste and other surplus flow. On that point I am getting outside my particular domain, and I would rather have somebody else testify.

Senator DOWNEY. As long as there will be engineers who will answer those questions, I will not ask any further questions.

The CHAIRMAN. Proceed.

Mr. CLAYTON. There are certain observations that I think should be made about the allocation of 1,500,000 acre-feet of water to Mexico. Some have been mentioned rather casually; and at the risk of repetition, I will mention them only briefly.

In the first place, the amount of 1,500,000 acre-feet a year is about 300,000 acre-feet a year less than Mexico is currently using. In 1943, the year during which this treaty was negotiated, Mexico used in excess of 1,800,000 acre-feet a year. Last year she used substantially the same amount.

The significance of that use is this: All the treaties of which I am aware—and all that I know about are summarized in the appendix to this statement [indicating] which the Senators have before them—are based upon the protection of existing uses; not at some time in the past but the uses that existed at the time the treaty was actually negotiated and signed. That was true in the case of the convention of 1906 with Mexico. Most of the treaties went further than that; if there was a surplus of water over and above the amount necessary to satisfy uses in both the upper and the lower riparian nations, they sought to make such a distribution of that surplus as to get the most beneficial use of the water in both nations; in other words, to allow for some increased expansion.

Perhaps the most notable example of that is the Treaty of the Nile, between Great Britain and Italy, which I believe was signed in 1926 or thereabouts. The waters of the Nile were so allocated between the upper and the lower nations that Egypt, which was the lower riparian state, not only got enough to satisfy her then existing uses but she got in addition enough to satisfy what was considered to be prospective uses in the future.

Senator DOWNEY. Did she get water out of a reservoir that had been constructed by somebody else?

Mr. CLAYTON. I understand that there were reservoirs along the stream system.

Senator DOWNEY. But was she actually awarded a beneficial use, in carrying out that treaty, of water from a reservoir constructed by some other sovereignty?

Mr. CLAYTON. To the extent that small reservoirs had been built in the head waters of the Nile River I understand she did get some benefit from it.

I might read what a text writer has to say about that particular thing. I do not want to stress this unduly, and I do not want to review the treaties themselves, because they are too numerous and are summarized in the appendix.

Senator DOWNEY. May I ask one preliminary question before he reads that?

The CHAIRMAN. Yes.

Senator DOWNEY. Mr. Clayton, you have expressed the fact that after the construction of Boulder Dam Mexico increased her use in recent years up to 1,800,000 acre-feet of water?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. Now I ask you, so that we may all understand the particular issue involved, would it have been possible for her to have increased that use up to 1,800,000 acre-feet of water without a beneficial use and drawing upon the stored waters of Boulder Dam?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. It would have been?

Mr. CLAYTON. Yes, sir.

Senator DOWNEY. So you are, then, standing directly upon the doctrine of prior appropriation here?

Mr. CLAYTON. Not particularly. I am standing upon the doctrine that when you negotiate a treaty, if you are going to follow the judicial precedents of the United States, and treaty precedents elsewhere, you must give due recognition to existing uses.

You asked about the uses before Boulder Dam was completed. Not being an engineer, I do not personally know about the opportunities that Mexico had to divert water from the stream itself under natural conditions, but you will recall, Senator, that in 1904 the predecessor in interest of the Imperial irrigation district, the California Development Co., had formed a Mexican subsidiary, and that Mexican subsidiary entered into a contract, a concession contract, with Mexico, whereby it was permitted to divert water in the United States, just a short distance above the boundary and on the California side, and to take that water for a distance of about 20 miles through Mexico, and then back into the Imperial Valley of California. That was the only way, at that time, that the Imperial irrigation district could get its water from the Colorado River. That called for a canal capable of diverting and transporting 10,000 cubic feet of water per second, which would amount, if fully utilized, to 7,200,000 acre-feet a year.

Under that concession contract Mexico was clearly entitled to the use of half of the water that was diverted through that canal, which is still in operation and use in Mexico.

In the 10-year period prior to the placing in operation of Boulder Dam there was diverted by the Imperial irrigation district, or its predecessor, the California Development Co., an average of more than 3,000,000 acre-feet a year. If Mexico had exercised the right which she had under that contract, which I understand is still in exist-

ence, to use half of that water, she obviously could have used in excess of an average of 1,500,000 acre-feet a year.

Senator DOWNEY. Mr. Clayton, that right that you speak of goes a way back to 1896, does it not?

Mr. CLAYTON. It started in 1895, and the last appropriation was made in 1899, as I recall.

Senator DOWNEY. The owners of that right entered into an agreement with a private company in Mexico in order to be able to get a right-of-way through Mexico; is not that correct?

Mr. CLAYTON. They formed a subsidiary in Mexico.

Senator DOWNEY. And it was an American interest that put in the entire canal through Mexico in order to get back to the Imperial Valley in the United States?

Mr. CLAYTON. That is correct, according to my understanding.

Senator DOWNEY. All the work was done by it?

Mr. CLAYTON. So I understand.

Senator DOWNEY. And all the levee work protecting the lands down in Mexico was done by this company?

Mr. CLAYTON. I understand that is true.

Senator DOWNEY. As a matter of fact, over all that period of time from 1896 to the building of Boulder Dam, they never did use more than 750,000 acre-feet of water in Mexico, did they?

Mr. CLAYTON. I think that is approximately the correct figure, although the estimates vary. It is quite apparent, I think, from the circumstances, that it was not because of any physical disability they were laboring under, but because of economic conditions. That apparently must have been the case, because they had a right to take from that canal half the water that passed through it, which half would have been in excess of a million and a half acre-feet a year.

Senator DOWNEY. You say there were no physical disabilities. Do you not know, as a matter of fact, Mr. Clayton, that prior to the building of Boulder Dam you could not irrigate over 200,000 or 225,000 acres in Lower California because all the balance of the land was subject to floods and inundations, and there was just not more than 200,000 or 225,000 acres to be irrigated there?

Mr. CLAYTON. No, sir; I do not know that.

Senator DOWNEY. If that is true, would that change your opinion?

Mr. CLAYTON. No, sir; it would not.

Senator DOWNEY. Oh, I see. You said there was no physical disability, only economic—

Mr. CLAYTON. No; I say, Senator, that the Mexican contention, which is concurred in by reputable American engineers, was that it was not a matter of physical disability, but of economic conditions.

Senator DOWNEY. We will later, with the consent of the Chairman, present authorities on that. But now, let me ask you this. Assuming there had been a body of land in Lower California that could have been irrigated up to the utilization of a million five hundred thousand acre-feet of water, are you here contending that if the right was not applied from 1896 up to the building of Boulder Dam you could then have a right based upon the doctrine of prior appropriation, upon that old right in 1896 gotten out by an American company?

Mr. CLAYTON. When you speak of international law, Senator, you have to speak of it in the sense of precedents established among the

civilized nations of the world, because there has never been a court to pass upon these matters authoritatively, such as the Supreme Court of the United States which has jurisdiction to pass upon controversies between the States. Consequently, when you are seeking a precedent for any particular question you must go to the treaties and conventions and other agreements that have been entered into between nations; and when you go to those, Senator, you will find, in connection with the allocation of water, that all start with the uses existing at the time of the treaty.

I will grant you, Senator, that the situation on the Colorado may be somewhat unique, in that the Boulder Dam was constructed before these uses in Mexico had increased to their present point. But you will not find any precedent for that in the treaties.

Senator DOWNEY. No.

Mr. CLAYTON. And consequently you would have to make a new precedent. It is a physical situation. The water has been impounded; the floods have been regulated. I think every thinking person would concede that that has facilitated—to some extent—the building up of these uses in Mexico. There is no doubt about that.

Senator DOWNEY. Mr. Clayton—

The CHAIRMAN. I want to be courteous, but I want the witness to have an opportunity to complete his answer.

Mr. CLAYTON. The fact is that the water is in the river and will be there for many years to come; how many years we do not know. Mexico has had a beneficial use, and her uses have increased rapidly; and it was felt by the Upper Basin States and Arizona, at least, that the time had come to put some limitation on the use, so that we could say authoritatively and definitely here in the United States how much water there was left for us to use. That was one of the principal things back of this treaty—to put a limitation upon it, so that if Mexico used 1,800,000 or 2,000,000 acre-feet, or 2,500,000 acre-feet, we could say, "Here is the agreement, and you have got to cut your uses back to the 1,500,000 acre-feet that is specified."

Senator DOWNEY. I do not want to testify here or get into any argument, but for the information of the committee I would like to say this, that we expect to present experts in international law who will say that there has been no treaty in the world that has attempted to give water stored in a reservoir in another country, to the lower country. If you know of any treaty awarding any water under such conditions as exist here—that is, before the construction of Boulder Dam—we would be pleased to have it.

The CHAIRMAN. You can present that when we get to it.

Senator DOWNEY. Let me ask you this: If, as a matter of fact, when Boulder Dam was built the total minimum flow of the river was exhausted principally in Colorado and California to such an extent that there was not sufficient water in a period of low flow to satisfy the rights in the Colorado River Basin States, in the United States and in Mexico—if that condition existed when Boulder Dam was built, then would it be your claim that thereafter Mexico, utilizing the benefits of Boulder Dam, could build up its prescriptive or appropriation right from 750,000 acre-feet to 1,800,000 acre-feet? Is that your contention?

Mr. CLAYTON. The only point I have to make about that, Senator, is this, that in the first place she has done it and she is in position

to continue. The only precedents we have are those based on uses existing at the time the treaty was negotiated. I know of no exception that would exactly cover a situation like this. So, the best we can say is that we have no precedent for it, and it is a matter of first impression, and some new laws and some new precedents will have to be established. That is a matter of doubt which might not impress a court of arbitration if the matter had to come to arbitration.

The second point I have to make is that the California Development Co., in entering into its contract with Mexico, evidently thought that at all times it could divert through the Alamo Canal, through Mexico and back into the United States, enough water to satisfy the needs of both countries, because it made the contract.

Those are the only two points I have to make about that.

Senator DOWNEY. Is it your opinion that, under the laws of the United States as you believe them to be, a citizen of the United States could secure any beneficial right in water from Boulder Dam except by contract and agreement of the United States Government?

Mr. CLAYTON. Except uses that existed at the time the dam was built, I think that is correct; yes, sir.

Senator DOWNEY. Would you apply the same rule to the citizens of Mexico, or would you give them a more favorable rule?

Mr. CLAYTON. It is not a question of giving them more favorable treatment; it is a question of what our international obligation is. Obviously we cannot expect to bind a foreign country by the *ex parte* declarations or the unilateral laws of another nation.

Senator DOWNEY. Yesterday you spoke of the Kansas-Colorado case. You stated to the committee, correctly, that the Supreme Court had taken jurisdiction of the controversy between Kansas and Colorado to administer equitable apportionment. Is it not true that the Supreme Court found that Kansas was not entitled to any relief?

Mr. CLAYTON. I do not recall the ultimate decision in the case. I simply recall the precedent established, which has been followed in other cases, for instance, in a case of my native State, the State of Texas. There is a dam built in the State of New Mexico, and it is claimed that Texas is entitled to its equitable share of the waters of the stream. That is the doctrine that has uniformly been applied by the Supreme Court of the United States, although they say that in dealing with the States in this particular matter, they are applying principles of international law as if they were dealing between two sovereign nations.

Senator DOWNEY. Do you happen to be familiar with the finding of the Supreme Court of the United States in the Colorado-Wyoming case?

Mr. CLAYTON. Generally, yes, sir.

Senator DOWNEY. Senator Millikin will correct me if I am wrong, but as I understand that case, the court found that both Wyoming and Colorado had adopted the law of prior appropriation, the irrigation law of the West, and both States, although they were separate sovereignties, would be bound by that law as though there were no boundary line. I believe that is the gist of the opinion.

Now, may I ask you this. What is the water law prevailing in Lower California?

Mr. CLAYTON. Senator, I am unable to answer that question. I do not profess to be familiar with it.

Senator DOWNEY. Do you not know that the entire doctrine of prior appropriation in the United States was taken from the Spanish law?

Mr. CLAYTON. I believe that is correct. Are you talking about Lower California in Mexico?

Senator DOWNEY. Lower California in Mexico. Do you not know that the Supreme Court has declared that the State of Sonora was bound by the doctrine of prior appropriation the same as our Western States?

Mr. CLAYTON. I fail to see the significance of that here, if you are talking about the amount they have appropriated so far, Senator.

Senator LUCAS. As a matter of information, Mr. Clayton, have you figures to show the amount of water that Mexico has used annually from the Colorado Basin during the last 5 years?

Mr. CLAYTON. I do not have them myself, Senator, but I believe they can be obtained.

Senator LUCAS. You made the statement a moment ago that they used last year 1,500,000 acre-feet.

Mr. CLAYTON. Approximately 1,800,000.

Senator LUCAS. Do you know what they used the year before?

Mr. CLAYTON. In 1943?

Senator LUCAS. Yes.

Mr. CLAYTON. About the same figure.

Senator LUCAS. And in 1942?

Mr. CLAYTON. I do not remember, Senator.

Senator LUCAS. You do have those figures?

Mr. CLAYTON. I can produce those figures.

Senator MILLIKIN. In connection with the Colorado-Kansas case I should like to remind the committee that the Supreme Court's end point was to suggest that the two States get together and make a treaty between themselves; and we have introduced a bill asking the authority of the Congress to do that.

The CHAIRMAN. Proceed, Mr. Clayton.

Mr. CLAYTON. I want to make one further observation with respect to the allocation of 1,500,000 acre-feet of water to Mexico. That is 300,000 acre-feet less than her present uses. Further than that, if you treat the 1,500,000 acre-feet as being all firm water, that is, water that has to be supplied from storage somewhere in the United States and not counting the return water and waste water that we cannot use in the United States, it amounts to approximately 8 percent of the water supply of that basin. With the figures of return flow and waste flow and the surplus flow, under ultimate conditions, that we have from the engineers, it amounts to this, that aside from the water that will go to Mexico, in any event, the return flow, the waste flow of the United States, the amount of firm flow that must be released from Davis Dam to complete the figure of 1,500,000 acre-feet, is less than 3 percent of the waters of the basin, leaving 97 percent of those waters for the use of the United States.

Senator DOWNEY. May I intervene to say that if Mexico would agree to that, based upon the positive statements of the Secretary, I am sure it would be acceptable to the Colorado River Basin States. I make that statement in the utmost good faith, if what Mr. Clayton says is sincere.

The CHAIRMAN. The presumption is that it is sincere.

Senator DOWNEY. Yes, and I believe it is. I again renew my offer. If Mexico is willing to take the return waters, plus 3 percent of the 16,000,000 average run-off, we can have this thing cleaned up in 24 hours.

The CHAIRMAN. There are several other States in the Basin. We have got to consult them.

Senator DOWNEY. I understand that the other States are agreeable, Mr. Chairman.

Senator MILLIKIN. I think fairness requires that it be said that the 750,000 acre-feet of return flow does not mature at once. That contemplates a rather full development of irrigation in the southern part of the United States. The 750,000 will be made good gradually.

Senator DOWNEY. It will be 30 or 40 years before the States do use up their full allotment, Senator.

Senator MILLIKIN. I was tossing you a bone, Senator.

Senator DOWNEY. Yes; I know you were.

The CHAIRMAN. Proceed, Mr. Clayton.

Mr. CLAYTON. Now, what does that mean in terms of development here in the United States. One million five hundred thousand acre-feet to Mexico, of which about 3 percent, based on the total supply, represents firm water; the balance belonging to the United States, or perhaps 16,500,000 acre-feet. It means that uses in the United States, that are allocated there, can be more than doubled, perhaps three times as much, but certainly more than doubled, whereas if and when the time ever comes when all the water allocated to the United States is put to beneficial use, the present uses in Mexico must be curtailed 300,000 acre-feet a year. In other words, far from permitting any expansion in Mexico, it will amount to a diminution of their present uses, and it means that many acres taken out of cultivation there; whereas in the United States we are permitting an expansion of more than a hundred percent.

The CHAIRMAN. All right. Go ahead to the next aspect.

Senator MCFARLAND. I do not believe you completed your dissertation in regard to the international law governing the question, did you?

The CHAIRMAN. Oh, yes; he did.

Mr. CLAYTON. Yes; I referred to the Supreme Court decision and also to the treaties in force.

Senator MCFARLAND. You started to read from a treaty.

The CHAIRMAN. No; he started to read from the work of a text writer.

Mr. CLAYTON. Yes. I had a very short quotation here.

Senator JOHNSON of California. Are you arguing now from the standpoint of Mexico?

Mr. CLAYTON. No, sir; I am arguing, Senator, from the standpoint of the United States. In other words, I believe so firmly, as the people who are associated with me believe firmly, that the United States has at least received fair and equitable treatment, that I was simply undertaking to give the facts that led us to have that belief.

Senator JOHNSON of California. You think that we have received fair and equitable treatment, do you?

Mr. CLAYTON. Yes, sir; I do.

Senator JOHNSON of California. You would not, of course, argue against that?

Mr. CLAYTON. Argue against what?

Senator JOHNSON of California. Fair and equitable treatment.

Mr. CLAYTON. No; I would not argue against it consciously.

Senator JOHNSON of California. So if it were shown that this treaty does not give fair and equitable treatment in any particular portion of it, you would not be in favor of it?

Mr. CLAYTON. I do not think that anybody having the interests of the United States at heart would take any other position. If they reached the conclusion that the treaty was not fair and equitable to the United States, they would not be supporting it.

Senator JOHNSON of California. That would be your attitude?

Mr. CLAYTON. That would be my attitude.

Senator JOHNSON of California. I expected it of you.

Mr. CLAYTON. Yes.

Senator JOHNSON of California. We shall probably be able to show you by and by, when we reach the subject, that this treaty does not give fair and equitable treatment to the United States. We might change your opinion when we do.

Mr. CLAYTON. Senator, I will say, at least, that I will give the same fair and courteous attention to the witnesses for California as you have given to me.

Senator JOHNSON of California. Yes.

Mr. CLAYTON. I am always open to conviction; I have been wrong in my life before.

Senator JOHNSON of California. But that does not quite answer my question. You would be willing to give fair and equitable treatment to the United States of America. Now, you are getting into deep water when you admit that.

Mr. CLAYTON. No, I do not think so, Senator.

Senator JOHNSON of California. You do not think so?

Mr. CLAYTON. No, sir.

Senator JOHNSON of California. Why is it that everybody representing a certain position in this matter appears here in favor of Mexico?

Mr. CLAYTON. Senator, you are mistaken. I do not appear here in favor of Mexico. I was born here in the United States; I was not born in Mexico. I owe no allegiance to Mexico. I have here what I think is something that is for the benefit of the United States—even the State of California. I am presenting those views.

Senator JOHNSON of California. I am willing that you should present them at length—at greater length, indeed, than you have done thus far. I am perfectly willing that where you can represent any views that are at loggerheads with the fairness and the good faith of the treaty that has been made by California or any of the other States, you should have ample time in which to justify your position.

Mr. CLAYTON. Thank you, Senator.

Senator JOHNSON of California. Now, there is no disposition to crowd you in that position. I want, if I can get it here, to know why the entire secretariat of State—I want to know why the entire officialdom of this country—have turned upon the Lower Basin States and are endeavoring to take from them works that have been built at a greater expense than \$7,000,000.

Senator McFARLAND. There is just one question of fact I want to clear up in my own mind.

As I understood you, Mr. Clayton, you stated that Mexico was now using approximately 1,800,000 acre-feet of water.

Mr. CLAYTON. Yes.

Senator McFARLAND. They are using it now or were using it at the time the treaty was negotiated. You take the position that you have to negotiate on the basis of the amount of the water that was used at that particular time?

Mr. CLAYTON. Well, I say that that is the only precedent we have, Senator.

Senator McFARLAND. That is what I am trying to get at.

Mr. CLAYTON. Yes, sir.

Senator McFARLAND. That is your opinion in regard to the precedents that exist?

Mr. CLAYTON. Yes, sir.

Senator McFARLAND. I believe the treaty does anticipate that there is to be a regulatory dam in order to supply this amount?

Mr. CLAYTON. Not in order to supply it, but in order to regulate it at the boundary. The principal function of Davis Dam, as far as the international picture is concerned, will be to firm up the surplus waters that arrive at the boundary anyway. I am talking about return flow, waste flow, and so forth. That could only be done at Davis Dam, and that was one of the reasons.

Senator McFARLAND. Or by the Boulder Dam or some other storage dam?

Mr. CLAYTON. The 1929 offer comprehended the use of Boulder Dam for that purpose. However, since that time Davis Dam was planned by the Bureau of Reclamation and authorized, and one of the reasons that was advanced for the building of that dam—of course, the primary purpose is to reregulate waters released from Boulder for the purpose of generation of electrical energy—but one of the reasons that was advanced by the Bureau for the building of Davis Dam was to regulate water at the boundary to be delivered to Mexico under any future treaty.

Senator McFARLAND. I am not trying to ask you engineering questions; I am just trying to find out the basis of the engineering facts which you assume to exist and upon which you base your opinion.

Mr. CLAYTON. Yes.

Senator McFARLAND. Is it your opinion that 1,500,000 acre-feet of water could have been supplied to Mexico if the Boulder Dam had not been built, and also furnish the water rights which existed in the United States prior to the building of the Boulder Dam?

Mr. CLAYTON. We know it could have been supplied physically through the Alamo Canal.

Senator McFARLAND. I know; but was the water available?

Mr. CLAYTON. Oh, yes; it was available at that time.

Senator McFARLAND. In the quantities and in the regulated flow?

Mr. CLAYTON. It was not regulated, but apparently they made a go of it with the flow they had. At times of low flow, of course, it was insufficient. It was not as good as a regulated supply. As a matter of fact, the building of Boulder Dam has facilitated greatly the development in Mexico.

Senator McFARLAND. You go on the assumption, I take it, that this land would have been placed in cultivation had the Boulder Dam not been built?

Mr. CLAYTON. No; I do not take that position, Senator, because I do not know what would have happened. The only point I had to make was that the water was there, and by diverting it through the Alamo Canal, which went through Mexico, they could have used it.

Senator McFARLAND. Well, was the water there except in flood periods?

Mr. CLAYTON. It supplied all the Imperial Valley of California. I do not know how adequately, but they did divert there an average of more than 3,000,000 acre-feet a year.

Senator McFARLAND. It was there sufficiently, in your opinion, to have established a water right to it, even though it might not have been sufficient at all times?

Mr. CLAYTON. Do you mean in Mexico?

Senator McFARLAND. Yes.

Mr. CLAYTON. If this treaty had been negotiated in the days when they were using only that amount of water, I do not know; I could not say as a matter of law. It would seem, however, that the Mexican Government had entered into this concession contract with the holders of this filing for 10,000 cubic feet per second, and that that in itself would have built up a water right in Mexico. I cannot say that, because the existing treaty precedents are based on what you use at the time the treaty is negotiated. So I would not go so far as to say that.

Senator McFARLAND. I do not know whether I have made myself plain or not, but one of the contentions here, as I understand it, is that when the Boulder Dam was built, the building of that dam was itself an appropriation of all the floodwaters which it would impound in the Colorado River. Now, is there sufficient normal flow in the river, other than the floodwaters which are impounded in the Boulder Dam—is there a sufficient quantity—upon which Mexico could have appropriated 1,500,000 acre-feet of water?

Mr. CLAYTON. Well, that is really an engineering question.

Senator McFARLAND. That is really an engineering question.

Mr. CLAYTON. I presume during times of the year both the United States and Mexico were short when the water was short.

Senator McFARLAND. That would not necessarily keep a man from appropriating water to get a water right?

Mr. CLAYTON. No, sir.

Senator McFARLAND. If there was sufficient water there to appropriate and get a water right?

Mr. CLAYTON. Well, the water was in the canal, because we do have the figures on the diversions through the canal. It was there in quantities in excess of 3,000,000 acre-feet a year.

Senator McFARLAND. Well, all right.

Senator THOMAS of Utah. Mr. Chairman, may we have the quotation from the text writer?

The CHAIRMAN. Yes.

Mr. CLAYTON. This is commenting, first, upon the general treaty precedents. This book was published in 1931. Mr. Smith says:

Bearing in mind how tenacious States have been of their sovereign rights, it is surprising to find how little reliance has been placed upon the doctrine of absolute territorial sovereignty in the disputes which we have considered. The most important official pronouncement in favor of this doctrine is the opinion given in 1895 by Mr. Harmon—

that is, Attorney General Harmon—

with reference to the controversy over the use of the Rio Grande. Even in this case, although the United States Government formally reserved its legal position, the actual dispute was settled by a rational agreement. Indeed, Mr. Harmon's attitude seems to have been merely the caution of the ordinary lawyer who is determined not to concede unnecessarily a single point to the other side. At the time there was very little precedent available, and Mr. Harmon apparently considered the case to be one of first impression. Since the United States Government did not act upon his opinion in their relations with Mexico, his statement of principle must be regarded as little more than academic. In the recent and more important dispute with Canada over the Chicago diversion Mr. Kellogg has significantly refrained from reaffirming Mr. Harmon's doctrine. For this there were doubtless excellent reasons. The fact that the principle has been repeatedly and emphatically condemned by the United States Supreme Court would undoubtedly have given a strong debating point to his opponents.

The position taken by Great Britain in her discussions with Egypt over the apportionment of the Nile water is a significant example of the refusal of a powerful state to rely upon the doctrine of the absolute rights of the territorial sovereign. The application of this principle would have permitted Great Britain to take as much water as she pleased for the irrigation of the Sudan, but the published correspondence shows that Lord Lloyd admitted freely and without argument the principle of Egypt's "ancient and historic rights" in the waters of the Nile, with the consequence that the apportionment of the water must rest upon the agreement of the two Governments concerned.

Of the judicial decisions and treaty provisions it is unnecessary here to say more than that they are uniformly inconsistent with the theory that the territorial sovereign can do as he pleases with the water upon his own territory.

The treaty provisions, now somewhat numerous, are all directed toward the practical object of securing the most beneficial use of the rivers with which they are concerned, and it is therefore not surprising that they lend no support to the theory of an absolute right of veto. On their negative side they merely protect each state from the danger of material injury by the unilateral action of its neighbors. This is highly important, insofar as it goes to show that the conventional law of nations is steadily cutting away any foundations that there may ever have been for the doctrine of the absolute rights of the territorial sovereign.

The CHAIRMAN. Is that what you want?

Senator THOMAS of Utah. Yes. Thank you.

The CHAIRMAN. Proceed, Mr. Clayton, with your testimony.

Mr. CLAYTON. Mr. Chairman, in the interest of time, since it is getting late, while I was going to draw a comparison between the 1906 treaty and this one, I shall get on to the administrative aspects of the treaty. I think it is sufficient to say, however, that the 1906 treaty and the present situation are parallel. All the water of the Rio Grande above Fort Quitman originates in the United States, yet the treaty protected the uses existing in Mexico at the time the treaty was signed.

The CHAIRMAN. The 1906 treaty?

Mr. CLAYTON. The 1906 treaty; yes; with Mexico. The United States agreed to build at its own expense and to convey to Mexico, without expense to Mexico, waters that were allocated to her according to schedule.

In the present treaty we do not go that far. We do not give them all the water they are presently using; and to the extent that Mexico uses structures in the United States, except the Davis Dam, she is obligated to pay a proportionate part of the cost, or all the cost of those she uses exclusively. The escape clauses or extraordinary drought clauses are essentially the same in both treaties.

Senator MURDOCK. On the question of schedules, does the treaty provide that Mexico is chargeable only with the water that is delivered to her under the schedules?

Mr. CLAYTON. Yes, sir.

Senator MURDOCK. Anything that would happen to flow but not in accord with those schedules is not chargeable to her under the treaty?

Mr. CLAYTON. That is correct, Senator.

The CHAIRMAN. Go ahead, Mr. Clayton.

Mr. CLAYTON. I want to discuss briefly, Mr. Chairman, the administrative features of the treaty. Some comment was made yesterday about the Mexican Commissioner having some veto power over the use of facilities within the United States, and so forth. I may say in the beginning that there is plenty of precedent for the establishment of an international commission for the administration of treaty provisions. Some of those that are cited in the statement of the Commission are relevant. There is one in 1915 between Great Britain and Italy, which provides for a permanent mixed commission to give effect to the agreements for the administration of the River Juba. Then, there is an earlier treaty between France and Spain, in 1866 and 1868, which also provided for a commission to carry out the division of the waters in that case.

Two of the oldest of record are the Central Commission of the Rhine, set up in 1815, and the European Commission of the Lower Danube, set up in 1856, both permanent bodies.

I might say that this treaty, like the 1906 treaty, is perpetual. It must be perpetual because the object of it, is to define for all time the rights of the two nations in the waters of the international streams. On the Colorado, for instance, we would not want Mexico in 1980, when we have built up substantial uses in this country, to say, "Well, we do not want to abide by the treaty. Let us forget the thing and start over," when they might be using 3,000,000 acre-feet from that river at that time. We want a commitment to deliver on the Rio Grande the same quantity of water that the treaty provides for and not make us subject to a unilateral increase on her part, on either river.

Furthermore, when you spend millions of dollars on works, such as those contemplated on the Rio Grande, that is something that cannot be subject to termination in 10, 15, 20, or 50 years.

The treaty confides general jurisdiction over the administration of it, subject to the control of the two governments, to the International Boundary Commission, which was formed under the treaty of 1889 between the United States and Mexico. The treaty of 1889 confided to the International Boundary Commission general jurisdiction over disputes that might arise on the water boundaries between the two countries. Since that time other treaties and acts of Congress have enlarged and amplified the functions of that Commission and of the American section of it—so it was probably only natural that when a commission was to be selected to administer the international provisions of this treaty, this existing agency was selected.

Now, I want to quote from article II of the treaty, which is very significant.

The jurisdiction of the Commission—

that is, the Joint Commission; it is not the American section or the Mexican section, but both of them acting as a commission—

shall extend to the limitrophe parts of the Rio Grande (Rio Bravo) and the Colorado River, to the land boundary between the two countries, and to works located upon their common boundary, each section of the Commission retaining jurisdiction over that part of the works located within the limits of its own country. Neither section shall assume jurisdiction or control over works located within the limits of the country of the other without the express consent of the Government of the latter.

That is the answer to the contention that Mexican Commissioner has any say about the conditions in this country:

The works constructed, acquired, or used in fulfillment of the provisions of this treaty and located wholly within the territorial limits of either country, although these works may be international in character, shall remain, except as herein otherwise specifically provided, under the exclusive jurisdiction and control of the section of the Commission in whose country the works may be situated.

Obviously, the purpose of that section was to limit narrowly the jurisdiction of the Joint Commission to works on the boundary portion of the rivers and on the land boundary, like international dams on the Rio Grande, which, of course, cross the boundary line. Those are the works—those are the only works—which are under the jurisdiction of the Joint Commission. All other works in the United States are under the jurisdiction of the appropriate authorities of this country. I say “the appropriate authorities” for the reason that there was some misconception of the meaning of this treaty, as far as other Federal agencies were concerned. As a result of that, there was signed by the two countries a protocol to the treaty which provided that where works situated within the interior of either country were under the jurisdiction or control of some other Federal agency, that Federal agency would continue to operate and maintain those works, or construct them where new construction was necessary, and in so doing would discharge the appropriate treaty functions that related to those particular facilities.

Senator HAYDEN. In this particular instance, it would mean the United States Reclamation Service as to most of them?

Mr. CLAYTON. Yes, sir. I might give some illustrations. Let us take the Davis Dam. Article XII provides for the building of Davis Dam by the United States—not by the American section, but by the United States. That is a dam planned by the Bureau of Reclamation primarily to take care of waters released from Boulder Dam for the generation of power. It was authorized by Congress, an appropriation was made for its construction, and construction had actually been started when the war situation brought about a cessation of construction. Under the protocol Davis Dam will be built by the Bureau of Reclamation and operated by the Bureau of Reclamation. The only function the United States section will have to perform there will be to receive from the Mexican section the schedules provided by the treaty, give them to the Bureau of Reclamation, and say, “Gentlemen, please schedule releases from Davis Dam so that the waters allocated to Mexico can be regulated at the boundary.”

The Bureau of Reclamation will know how much water is going to be in the river anyway at the boundary; it will know what the return flows are going to be, and it will release just enough water to firm these up so as to bring them within the Mexican schedules.

The same is true with respect to the operation of Imperial Dam, over which the Bureau has jurisdiction, and the All-American Canal, from the Imperial Dam down to Pilot Knob. Those operations are to be carried on by the Bureau of Reclamation. That is on the Colorado:

ART. XX. The two Governments shall, through their respective sections of the Commission, carry out the construction of works allotted to them.

Under the protocol some of the work will be done by other agencies, primarily the Bureau of Reclamation:

For this purpose the respective sections of the Commission may make use of any competent public or private agencies in accordance with the laws of the respective countries.

So even though there may be works assigned to the United States section, we do not have to perform that work ourselves; we can let it out by contract, or we can get some other Federal agency to do it. In any event, as to any of these works in the United States, it is the United States section or other American agency that has jurisdiction, and not the joint Commission.

Senator MILLIKIN. When you say that in the case of disputes, the Governments of the two countries shall decide, does that mean the Departments of State of the two countries?

Mr. CLAYTON. Where is that, Senator?

Senator MILLIKIN. In the course of your explanation you said that if the two Commissioners fell into a dispute, then the Governments of the respective countries shall decide it.

Mr. CLAYTON. I did not say that now; I was going to refer to that a little later—to the settlement of disputes.

Senator MILLIKIN. In the event it should be decided to build some works in the United States, how would that come back to Congress for approval, let us say, of appropriations?

Mr. CLAYTON. Of course, it is subject absolutely to the will of Congress, as far as appropriations are concerned. I might say this, Senator. It is simpler, I presume, to take the two river basins separately. Let us take the Rio Grande. There are only three works that are specifically provided for by this treaty for construction on the Rio Grande, and they are the three international storage dams. That provision was made mandatory in the treaty at the insistence of the United States, because we are primarily interested in those storage dams. Most of the water is in Mexico. We are going to benefit more than Mexico by those storage dams, and we wanted to be sure that Mexico would join in the construction of those three dams, so that was put in there. There are other works that might be built, which, to a certain extent, are mandatory; diversion works, for instance; works for flood control, in addition to the dams; also, river rectification, and so forth. All those works that are not specifically enumerated for construction are to be investigated by the Commission and reported back to the Governments, and they must meet the approval of the two Governments. That comprehends not only the executive branch of the Government, but it comprehends Congress in its control over appropriations. So all those works of which I speak, except the three specifically provided for by this treaty, cannot be built until the matter has been referred back to the Government with a complete report by the Commission. The necessary diversion works, while not specifically

enumerated, must be built to permit of the proper use of the conserved water.

The CHAIRMAN. Then, the three that are mentioned cannot be built until Congress appropriates the money?

Mr. CLAYTON. That is true.

The CHAIRMAN. Then, that is up to us. We can appropriate if we want to.

Mr. CLAYTON. Of course, where money is involved, it is always dependent upon appropriations by Congress. The situation is precisely the same in Mexico. There have been instances, Senator, as you know, in connection with the western land boundary particularly, but the whole boundary in general, where certain works have been agreed upon by the two Governments by the exchange of diplomatic notes, in which it was expressly stated or clearly implied, as to both countries, that it was dependent upon whether the Budget Bureau agreed and there was an appropriation made by the Congress. Sometimes Congress has appropriated; sometimes it has not. Nevertheless, control ultimately rests right there.

Senator MILLIKIN. If Congress should refuse to appropriate or approve the amount, then, from your testimony, would there be a breach of faith, insofar as the treaty is concerned?

Mr. CLAYTON. Only insofar as the works that the treaty makes mandatory are concerned. For instance, as to the three international dams on the Rio Grande, which we insisted upon, there would be a breach of faith if the Congress did not appropriate money for them. As to all other works which are not expressly provided for but which are left for future determination, there would not be any breach of faith, because the treaty provides that that work has got to be done in accordance with the domestic laws of the two countries; and, of course, in Mexico and in the United States that depends upon the will of Congress in appropriating funds.

Senator MILLIKIN. May I ask Mr. Clayton a general question?

The CHAIRMAN. Very well.

Senator MILLIKIN. First, let me state some criticisms I have heard frequently. One of them that I have heard frequently is that this treaty makes an unwarranted delegation of the powers of Congress to the Commission or, in the alternative, to the State Department. Is there any feature of this treaty which, in your opinion, does that or which verges on it?

Mr. CLAYTON. No, sir; there is not. There is absolutely no delegation of power. Of course, when this body ratifies this treaty, it does agree to the construction on the Rio Grande of those three international dams. It agrees that the United States will construct the Davis Dam.

Senator MILLIKIN. That has already been authorized and appropriated for?

Mr. CLAYTON. That has already been authorized and appropriated for. I would not say that is all; there might be others. There is a small canal, a half mile long, I think, to connect Pilot Knob wasteway with the boundary, which we are obligated to construct at the cost of Mexico, not at our expense.

Senator HAYDEN. In line with what Senator Millikin says, my mind is considerably disturbed about this proposition. For example, I have a letter from the president of the Yuma County Water Users

Association, who says that the power of the Commission referred to under article II, under the preliminary feature, should be made subject to control by the Congress. Now, how would it be practical to do that?

Mr. CLAYTON. As far as the powers of the Commission are concerned—and when I speak of the Commission I speak of the joint international body—they have their certain international functions, and all the functions they have are particularly described and narrowly circumscribed in this document. Of course, those powers are not, strictly speaking, subject to the jurisdiction of this Congress any more than they are to the Congress of Mexico, but each Commissioner and each section is subject to his and its respective Congress. You will find in reading through the treaty that almost everything the Commission does is subject to the approval of the two Governments. In our case, almost everything that the American section does is subject to the approval its Government.

Senator HAYDEN. I do not see how the American Congress could intervene to exercise the power that the treaty confers upon the Commission.

Mr. CLAYTON. Here is an illustration under another treaty. Let us see how it works in practice under the 1905 treaty. That treaty provided for the elimination of bancos on the Rio Grande and the Colorado River. Bancos are small tracts of land that are cut off by the river and attach themselves to the other side. It becomes the duty of the Boundary Commission to survey and determine whether it is a true banco and, if so, to eliminate it from the effects of the treaty of 1884, so as to transfer jurisdiction and sovereignty to the country to which that banco has become attached. That is subject to the approval or veto of the State Department, but it is not subject to the approval or veto of Congress, because it is under the provisions of an existing treaty which has been approved by the Senate, and it is purely a matter of engineering determination. There are no funds involved in the determination.

Senator HAYDEN. It is a purely administrative matter. I do not see how Congress could legislate on the subject.

Mr. CLAYTON. I believe that is right.

Senator HAYDEN. But this request is that the powers of the Commission referred to in article II, under the preliminary provisions, be made subject to the control of Congress. But being an international body, the Commission would have to be equally subject to the control of the Mexican Congress.

Mr. CLAYTON. Yes, sir; it would have to be mutual.

The CHAIRMAN. That man does not want a treaty.

Senator HAYDEN. Here is the idea expressed in another way by the Salt River Valley Water Users Association. They say that—

Whereas the proposed treaty if approved will take precedence over all existing Federal and State statutes and all written instruments relating to the waters of the Colorado River and its tributaries and will place the administration of said treaty in the hands of a commission which will have power to take water from the prior users on the American lands to fulfill the treaty guaranty to Mexico, and

Mr. CLAYTON. Senator, that simply is not true. Take, for instance, the case of your constituents in the Salt River Valley of Arizona. This treaty provides that 1,500,000 acre-feet shall be delivered to

Mexico wherever it arrives in the boundary portion of the river. Does that mean that the Boundary Commission will have to go up Salt River Valley and say, "Do not divert this water, but let it run downstream to meet this demand?" It does not mean that at all. As a matter of fact, aside from the return and other excess flows that are going to be in the river anyway, part of which might come from the Salt River project and along the Gila River, the regulation of the Mexican supply is to be done under the treaty at Davis Dam, and there alone, both for the All-American Canal and down the river.

Senator HAYDEN. Let me get that clear in my mind. The treaty provides that the regulating point is the Davis Dam on the main stream in the Colorado River?

Mr. CLAYTON. Yes, sir.

Senator HAYDEN. The Gila, being a tributary, comes in very much below. There is no regulating point on that stream?

Mr. CLAYTON. There is none.

Senator HAYDEN. Do you think in that sense they are protected?

Mr. CLAYTON. Yes. But here again neither country is obligated to construct any flood-control devices on the Colorado River anywhere. The treaty says that investigations shall be made of flood control below the Imperial Dam. We report that back to the two Governments; and only to the extent that they approve them and Congress appropriates the money for them are they to be built.

As suggested by the Committee of Fourteen and Sixteen in Santa Fe in April 1943, a feature of that would be a dam at the lower end of the Gila River, below all developments on the Gila, at the Sentinel Site or some other site, which would serve not only for flood control but to regulate water. We might be able to regulate water there to a certain extent, so as to insure credit for these flash floods that come down. We could impound them and let the water out according to schedule, but that would not affect the people up above on the Gila River or any of its tributaries.

Senator HAYDEN. As I have said to my people, if it could be possible under this or any other treaty, to deprive users of water in the Salt River Valley in Arizona of a certain quantity of water in order to have it delivered to Mexico, there is no practical way on earth of getting it there.

Mr. CLAYTON. There is none; it would not even come down the river, Senator.

Senator HAYDEN. The water would not be wanted except in time of drought. There is more than a hundred miles of sand and gravel between the lowest dam in the Gila River and Mexico. It could not possibly be flooded. So as a practical matter I do not think there is anything to worry about. But theoretically, is there any? Just 22 years ago I asked the same question of Mr. Hoover in connection with the ratification of the Colorado River compact. My legislature was in session. I received letters from a number of members and from other people expressing very grave doubts about what would happen if Arizona ratified the Colorado River compact. I contacted Mr. Hoover and addressed to him this whole series of questions that you find in this book entitled, "Colorado River Contracts." One of the questions was:

Question 11. Is there any possibility that water stored by dams in the tributaries of the Colorado River in Arizona, such as the Roosevelt Reservoir, on the Salt River, or the San Carlos Reservoir, on the Gila, might under the terms

of such a treaty, be released for use in Mexico to the injury of the water users of the projects for whose benefit such dams were constructed?

This was Mr. Hoover's reply:

I cannot conceive of the making or the ratification of a treaty which would have such an effect. If it were possible to believe that the Federal Government would treat its own citizens with such absolute disregard of their property and rights, I presume that they would receive ample protection, even as against the Government, under the provisions of the Federal Constitution.

It must be remembered that the United States now has a large financial interest in the projects already constructed. It is not to be presumed that action will be taken detrimental to these interests. Furthermore, each of the seven States directly concerned has two Members of the Senate, by which any treaty proposed must be ratified.

In this case I do not want to vote to ratify a treaty that would have the effect as outlined in the question I propounded. You say it is impossible under the treaty that that effect could take place?

Mr. CLAYTON. Theoretically and practically, there is nothing in the treaty that even hints at that; and, practically, as you say, it would be impossible.

The CHAIRMAN. Let me ask you a question. So far as the powers of the International Commission are concerned, are they not delimited and defined by this treaty?

Mr. CLAYTON. Very narrowly, Senator.

The CHAIRMAN. Is it not true that they would have no power whatever except that given directly and specifically in the treaty?

Mr. CLAYTON. That is correct, sir.

The CHAIRMAN. There is nothing in the treaty anywhere that confers upon them any such powers as contained in the fears expressed a moment ago?

Mr. CLAYTON. None whatsoever.

Senator HAYDEN. Then it is not true that the treaty, if approved, will take precedence over all existing Federal and State statutes and all instruments relating to the Colorado River and its tributaries?

Mr. CLAYTON. No, sir.

The CHAIRMAN. Is it or is it not true also that the distribution and the permits to use water within any State in the United States under this treaty would not be in the Boundary Commission or in the Federal Government, but would be laid in the respective States, just as their laws now are?

Mr. CLAYTON. That is correct, Senator.

Senator McFARLAND. There is another question. We were talking about these works and the dams that were being constructed in the river. I refer to article XII. In the first paragraph it says:

Regardless of where such diversion structure is located, there shall simultaneously be constructed such levees, interior drainage facilities, and other works, or improvements to existing works, as in the opinion of the Commission shall be necessary to protect lands within the United States against damage from such floods and seepage as might result from the construction, operation, and maintenance of this diversion structure.

Some of the people down in Yuma County expressed fear that if a diversion dam is placed in this river, which has never been permitted hertofore, it may cause the water level to rise up and alkalize their landss in such a way that the lands will be useless. It being left to the Commission, the Mexican Commisisoner would never agree to the proper levees and proper drainage system to prevent that; or at

least it might not be prevented until the lands were already ruined, and then it would be too late.

I should like to hear any answer you might care to give in regard to that objection which has been raised by some people against this treaty.

Mr. CLAYTON. I will make a brief statement about that. There will be some engineering testimony about that too. But here are the salient features of it.

Senator McFARLAND. The legal end of it having to be agreed upon by the Mexican member of the Commission.

Mr. CLAYTON. But simultaneously. In other words, the design and construction of this dam, over which the American section has veto power, will be tied up and interrelated with whatever protective devices are considered necessary to protect against any such floods or seepage.

As you know, in the past there have been temporary dams put in the river there. This proposal in the treaty has the advantage over such a temporary dam in that it will be designed and planned so as to pass floods and likewise simply to divert the water into Mexico, wherever it is built. This is not a storage dam. It does not impound water; it simply diverts it. Engineers tell me there is no reason why the water surface should be kept at any higher elevation than it is now. That is borne out by a portion of article XI (c), where it speaks about delivering water to Mexico through the All-American Canal, and so forth, into the Alamo canal; and, of course, diversion from the river will also be in the Alamo canal. It says:

In either event the deliveries shall be made at an operating water surface elevation not higher than that of the Alamo canal at the point where it crossed the international boundary line in the year 1943.

If we want to get credit for return and waste flows, as I say, within the Mexican allocation, it is necessary, of course, to have a diversion dam there to put it in the canal. It is not necessary to impound waters and to make the water surface elevation any higher.

But since we have veto power over the location of that dam in the limitrophe section of the river, and over the plans for that structure, no such location or plans will be approved unless at the same time whatever protective devices the American section considers to be necessary are likewise approved.

The CHAIRMAN. Right there, let me ask you this: The language of article XII, referred to by Senator McFarland, reads:

Regardless of where such diversion structure is located, there shall simultaneously be constructed such levees, interior-drainage facilities and other works, or improvements to existing works, as in the opinion of the Commission shall be necessary to protect lands within the United States against damage from such floods and seepage—

that is what you are talking about—seepage of alkali to the top of the ground, ruining the land—

as might result from the construction, operation, and maintenance of this diversion structure.

That has to be agreed to by the American section before it can be done, has it not?

Mr. CLAYTON. That is right.

The CHAIRMAN. Furthermore, the article says:

These protective works shall be constructed, operated, and maintained at the expense of Mexico by the respective sections of the Commission, or under their supervision, each within the territory of its own country.

So it leaves it up to the American section to operate these works; and, of course, it would not operate them in such fashion as to ruin the land by letting alkali seep through.

Senator McFARLAND. I shall go into this more when engineers testify, since it is more an engineering question. But one of the objections is—one of the fears is—that the Commissioners will not recognize what is necessary. There is a feeling that it should be done by the Department of the Interior. The Commissioners are not irrigation people. The Department of the Interior, through the Bureau of Reclamation, is the agency to do what is necessary. However, we will go into that later.

Mr. CLAYTON. On that point, Senator, I wish to give this committee assurance that the Boundary Commission is not going to approve any plans—is not going to approve any location—without consultation at least with the Bureau of Reclamation. The chances are that they will not only approve them but that they will design those works and build them, if they are willing to do it. They are primarily concerned.

Senator JOHNSON of California. What is your authority for that?

Mr. CLAYTON. My authority for that is primarily the protocol to the treaty, but also negotiations we have had with the Bureau of Reclamation as to what they are willing to undertake.

Senator JOHNSON of California. It is not a part of the treaty?

Mr. CLAYTON. It is not; no, sir.

Senator JOHNSON of California. Then your suggestion of it is born of the hope?

Mr. CLAYTON. It is considerably more than that, Senator. It is born of our discussions with the Bureau of Reclamation. I do not think really, now, that the American Commissioner ought to be presumed to be so lacking in patriotism that he would not safeguard the interests of his own country.

The CHAIRMAN. I might interject, to answer Senator McFarland's statement about the commissioners not being engineers, that the present American Commissioner, Mr. Lawson, was for years, as I remember, with the Reclamation Service and came from the Reclamation Service to become international Commissioner on the boundary.

Mr. CLAYTON. That is correct. His whole experience has been in reclamation matters. Moreover, article 2 of the treaty provides that the head of each section shall be an engineer commissioner.

The CHAIRMAN. He has spent his whole life in the reclamation business.

Mr. CLAYTON. Mr. Lawson can correct me, but I believe he was the first engineer for the Yuma project on the Colorado River.

Senator JOHNSON of California. The Senator from Arizona confirms that statement, so we all admit it.

What I was saying was that your design for the peculiar sort of service you expect from the Commission was born of wishful thinking; and having thus been born, you could only answer that it is a hope; is not that true?

Mr. CLAYTON. No; that is not true. I said it was more than wishful thinking and more than hope; it was born not only of protocol but of the negotiations with the Department of the Interior as to what they were willing to undertake under the treaty.

Senator JOHNSON of California. Will you furnish me a copy of the particular provision?

Mr. CLAYTON. There is no written contract—any formal written contract—that has yet been executed.

Senator JOHNSON of California. You have practiced law long enough to know that without a written contract you can stand up and talk about the verbal contract that you have, and that you will have difficulty in its enforcement.

Mr. CLAYTON. I have a little more faith in dealing with sister governmental agencies.

Senator JOHNSON of California. With what ones?

Mr. CLAYTON. Well, with all of them; in this particular instance, the Bureau of Reclamation.

Senator JOHNSON of California. With that childlike faith?

Mr. CLAYTON. Senator, perhaps you do not have the same confidence in the Bureau and the Department of the Interior.

Senator JOHNSON of California. Oh, yes; I do. I have enormous, enthusiastic confidence in all of them and in all the officials of the United States. I go further than you. But there is trouble at times between officials and how they construe the law; and when there is no law by which they can go they are likely to make a mistake.

Senator HAYDEN. There are just these other statements I would like to bring to your attention.

(Senator Hayden read from a letter, which is as follows:)

Whereas the Salt River project of Arizona comprising 242,000 acres of highly developed irrigated lands, receives its water supply from the Salt River, a tributary of the Colorado River, through appropriations and use established by its landowners prior to any rights acquired by the Mexican lands and under the terms of the said treaty would lose their early priorities so established and thereby nullify laws long established throughout the arid West, and

Senator HAYDEN. What is there in this treaty that would cause any water user anywhere in the Colorado River system to lose his established priority?

Mr. CLAYTON. Nothing at all. There is nothing in the treaty that even remotely hints at any priorities within the States. That is purely an internal matter with which the treaty is not concerned.

Senator HAYDEN. The final statement is:

Whereas the Salt River Valley Water Users' Association comprising 15,000 irrigation farmers within the Salt River project, recognizes that some of the Mexican lands under the rule of appropriation have established certain rights according to their date of use, but do object to the United States granting them rights in excess of those established under the rule of appropriation and then securing same by a guaranty which will take precedence over all water rights above regardless of appropriation date, leaving our association members and other prior-right water users without court protection,

Senator HAYDEN. What is there to that last statement?

Mr. CLAYTON. Nothing at all, Senator. When you say that Mexico has a prior right to 1,500,000 acre-feet, in the same breath you have to say that the United States has a prior right to all the remainder, which is estimated at 16,500,000 acre-feet. In other words, you might say that Mexico now has a prior right to 8 percent of the waters of

the Colorado River, but including drain water, surplus water, or anything else, only 3 percent actually of firm water; and the United States has prior right in 97 percent of the firm water.

Internally, within the United States, the treaty is not concerned about the relative order of priorities. It has nothing to do with private rights. But as far as recourse to the courts is concerned, I may say that while the Commission as a body, being an international body, is not amenable to suit, because there is no court that has jurisdiction over it now, the American Commissioner is just as amenable to suit as the Secretary of the Interior or the Commissioner of the Bureau of Reclamation are, or as you are or I am, because he is an official of the United States Government and can be held to the performance of his duties, if necessary, by court action. So if he should ever attempt to transgress his authority and tread upon private rights with which this treaty is not concerned, his attempt, of course, would be ineffectual. Nevertheless, any person who felt aggrieved would have his remedy in court.

Senator HAYDEN. You say that whatever right this treaty grants to Mexico as against the United States, Mexico grants equal rights to the United States with respect to any rights the United States has?

Mr. CLAYTON. Correct.

Senator HAYDEN. There is not an advantage there to Mexico?

Mr. CLAYTON. No, sir.

Senator HAYDEN. As between the division of waters?

Mr. CLAYTON. No, sir.

Senator HAYDEN. They are entitled, in other words, to the share that the treaty gives to them, and we are entitled to all the remainder of the water, which is our share?

Mr. CLAYTON. That is right.

Senator HAYDEN. Each Government recognizes that right in the other Government in the control of the water?

Mr. CLAYTON. Yes, sir.

The CHAIRMAN. Senator Johnson wants to make some inquiry about a gentleman who he thinks is present.

Senator JOHNSON of California. Is the attorney general of the State of California present today?

Mr. SHAW. No, sir; he is not. He is ill and was not able to attend yesterday or today.

The CHAIRMAN. Is he here in town?

Mr. SHAW. Yes, sir.

Mr. CLAYTON. I wanted to illustrate the point a little further about the Rio Grande. Now, in the Rio Grande the provision is, of course, that the United States will get all her tributary contributions, so we are not concerned there with whether they use water in the interior of the State or whether they allow it to flow in the river and use it down below. To the extent that it flows in the river, it is the United States' share. Then, we get a certain share from Mexico and get half the water otherwise in the river.

The duty of the Commission in that respect is essentially ministerial. The American section will measure inflows and the diversions on the American side so as to keep track of the United States' share. To the extent that it is impounded in reservoirs, it will measure that

and keep records of it and measure the water released from the reservoirs.

Now, how about the diversions and uses from this stream? Here is the provision about that, in article IX:

(b) Either of the two countries may, at any point on the main channel of the river from Fort Quitman, Tex., to the Gulf of Mexico, divert and use the water belonging to it and may for this purpose construct any necessary works.

Either country.

However, no such diversion or use, not existing on the date this treaty enters into force, shall be permitted in either country, nor shall works be constructed for such purpose, until the section of the Commission in whose country the diversion or use is proposed has made a finding that the water necessary for such diversion or use is available from the share of that country * * *.

The effect of this provision is that all existing diversions from the river and uses from the river in both countries are protected under the treaty. If somebody wants to divert some more water from the stream—and we will assume that it is in the United States—the only thing the American section is called upon to do is to determine whether there is impounded in the reservoirs along the Rio Grande, or flowing in the river, enough water to satisfy that use within the share of the United States, a matter of mathematical determination that, under the treaty, has got to be kept up from day to day, week to week, and month to month. But where that diversion is to be and where the use is to be is solely a matter for State authorities under State law.

Senator HAYDEN. It is not quite a parallel case. In this case the river forms the boundary, whereas in the case of the Colorado the water is all within the United States.

Mr. CLAYTON. The situation is even more apparent on the Colorado River in the United States, because obviously the Commission would not have any authority to go upstream and determine who is going to use the water and where.

Senator HAYDEN. That would be true; but so far as the treaty is concerned, nothing interferes with what we do with the 16,000,000 acre-feet of water allocated by the Colorado River Compact?

Mr. CLAYTON. Not a line, not a word, not an implication.

Senator MURDOCK. Taking the facts as you have given them to us, Mexico has 3 percent of the water on an equality with the 97 percent that the United States has?

Mr. CLAYTON. Of course, Senator, that 3 percent I am talking about is firm water.

Senator MURDOCK. Yes, I understand that. I followed you very closely, and I do not agree with you in asking this question. I am assuming that Mexico, under your statement, is entitled to 3 percent of the water, and the United States to 97 percent of the water. If there is a deficiency along the river and Mexico does not get her full 3 percent, then someone has a right, does he not, to supply that deficiency from somewhere up the river?

Mr. CLAYTON. Yes, sir. It would come from Davis Dam.

Senator MURDOCK. Suppose it is not there at Davis Dam. Then where would they go? You assured Senator Hayden that they could not go up the Salt River to get it.

Mr. CLAYTON. No, because the regulation is not there, Senator.

Senator MURDOCK. No, because of the practical situation. So it would be an impossible situation.

Mr. CLAYTON. Not only that, but under the treaty, that regulation will be at Davis Dam.

Senator MURDOCK. But if there is a deficiency, then certainly someone has a right to go somewhere to make up that deficiency?

Mr. CLAYTON. That is correct.

Senator MURDOCK. Insofar as they do that, then somebody up the river has to give up some water. You cannot take water from the river without somebody's giving it up.

Mr. CLAYTON. When Davis Dam is built, the purpose of it will be to firm up water that is already in the river. We are assuming now that the water in the river is deficient. So we have to firm it up with some more water. The treaty provides that Davis Dam is the regulatory device for that purpose. It is difficult for me to conceive a situation where there would not be sufficient water in Davis Dam to take care of any use of that character.

Senator MURDOCK. Just assuming that there is not sufficient there, under the treaty, as I understand it, they have a right to go somewhere to get the water.

Mr. CLAYTON. Assuming it is not there, then the next place to go would be Boulder, because that is where the main storage is. Of course, under the treaty, any deficiency that cannot be taken care of out of surplus is to be equally borne by the two basins.

Senator MURDOCK. That is right where I want to get to. If there is a deficiency to be made up, it must be made up out of the 16,000,000 acre-feet that is in proportion to the United States?

Mr. CLAYTON. Yes, sir; that is correct.

Senator MURDOCK. So we do not want to mislead the people of the United States who are interested in this water by telling them that we can give 1,500,000 acre-feet to Mexico and will not take it away from somebody up the river if there is a deficiency.

Mr. CLAYTON. That is correct; except that if the deficiency is caused by drought, we are all in the same boat.

Senator MURDOCK. Surely; but it is diminished on an equality. But somebody has to give up some water if Mexico gets hers.

The CHAIRMAN. Even if Davis Dam were exhausted—which I cannot conceive—and you went back to Boulder to get the amount to be prorated to Mexico, nobody above Boulder would have to give up any water, would he, if it is in the Boulder Dam?

Mr. CLAYTON. For that moment, no. Of course, to the extent of any deficiency that could not come out of the surplus, the upper and lower basin States would divide it equally; and when the upper basin States have discharged their obligations under the compact to deliver 75,000,000 acre-feet at Lee Ferry in 10-year progressive series, they have discharged their obligations pro tanto.

Senator MURDOCK. If that is true, you take the position that when the upper basin has fulfilled its obligation to deliver 75,000,000 acre-feet over the 10-year period, that is the full extent of its obligation?

Mr. CLAYTON. No.

Senator MURDOCK. Of course you do not mean that. You mean that if this treaty is adopted, we have the additional burden of supplying one-half of any deficiency under the treaty?

Mr. CLAYTON. Yes, sir, I believe that would be the case. I do not want to be in the position of trying to interpret an interstate compact, but here is the pertinent provision of the compact:

If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b)—

That is the allocation to the basins—

and if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the upper basin and the lower basin, and whenever necessary the States of the upper division—

Utah, Wyoming, Colorado, and New Mexico—

shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in provided in that provided in paragraph (d).

Senator DOWNEY. Mr. Clayton, the opinion you have expressed interpreting the treaty seems to me to be wholly inconsistent with what I think is the most important stipulation in the treaty, and I do not believe you have referred to that language. It is very brief; I want to read it. It is on page 14, article X, of section 3:

Of the waters of the Colorado River, from any and all sources, there are allotted to Mexico:

(a) A guaranteed annual quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) to be delivered in accordance with the provisions of article XV of this treaty.

I want to ask you this question: Do I understand your interpretation of this treaty to be that it would have no different meaning even if it stated that there is a guaranteed allocation to the United States of, we will say, 16,000,000 acre-feet? Do you think that that guaranty of 1,500,000 acre-feet to Mexico without any corresponding guaranty in the Treaty to the United States does not give Mexico any prior right over the United States?

Mr. CLAYTON. No more prior right than the United States has prior right to all the water which is left, which is estimated as being 16,500,000 acre-feet.

Senator DOWNEY. Oh, if after Mexico gets this guaranty fulfilled there is enough water left, we will get ours?

Mr. CLAYTON. I am talking about the estimate that is made over a 46-year period, that there is an average of 18,000,000 acre-feet a year. We have as much right to the balance of that, which I will assume to be 16,500,000 acre-feet a year, as Mexico has to her 1,500,000 acre-feet; and both of them are subject to diminution in times of drought.

Senator DOWNEY. Yes, Mr. Clayton, but the language of the treaty is that we, the people of the United States, deliver this water, physically guaranteed to Mexico 1,500,000 acre-feet. I know there is inconsistency in the treaty. I think this would lead to illimitable lawsuits, because you do have the other provision that in the event of extraordinary drought all allocations shall be equally reduced. But here is the heart of the thing: We the people of the United States are guaranteed 1,500,000 acre-feet.

Mr. CLAYTON. Subject to certain other conditions; for instance, drought conditions.

Senator McFARLAND. Is your interpretation of that this: That we are going to guarantee to the Government of Mexico that it will so conduct distribution of its water that in ordinary times there will be 1,500,000 acre-feet available? In other words, you would say the balance of the water, if you would go ahead and appropriate all the water and put it to beneficial use on the land—there would not be 1,500,000 acre-feet. What, in your opinion, does that mean?

Mr. CLAYTON. Well, it is an allocation to Mexico of that amount of water. If there is any chance involved, of course, the risk, aside from extraordinary drought, is borne by the United States. But it is a good risk, because we know that the waters of the Colorado River are so much more than that, and we know also that Mexico has been using so much more than that.

Senator McFARLAND. Than what?

Mr. CLAYTON. More than 1,500,000 acre-feet.

Senator McFARLAND. You mean there is more than 1,500,000 acre-feet left in the United States?

The CHAIRMAN. No.

Senator DOWNEY. Going down now.

Mr. CLAYTON. On the Rio Grande—

The CHAIRMAN. Let us stick to this. He wants to know how much Mexico has been using.

Senator McFARLAND. No: I want to know what the word "guarantee" means.

Mr. CLAYTON. It means that that is the allocated share of Mexico; that they get that much water subject only to diminution in time of drought.

Senator McFARLAND. Then, it would not be equality when you have the word "guarantee" in it. It seems to me that that means more than equality.

Mr. CLAYTON. You mean this prior charge on the river?

Senator McFARLAND. I am asking you what it means.

Mr. CLAYTON. It means that Mexico has prior right to that 1,500,000 acre-feet, just as we have prior right to the balance.

Senator McFARLAND. Prior over them or prior over whom?

Mr. CLAYTON. Prior over any rights in the United States for that particular water.

Under the so-called Santa Fe formula, proposed by the State Department and approved by the Committee of Fourteen and Sixteen, Senator, the allocation to Mexico was to be based primarily upon releases at Boulder Dam to supply the lower basin States, but the engineers reached the conclusion that that would amount to so much more than 1,500,000 acre-feet that they preferred to fix a limitation. Consequently, that proposal was never made to Mexico. Under the so-called Santa Fe formula, on the average they would have got substantially more than that.

Senator McFARLAND. Is not the real meaning of that that the United States will deliver 1,500,000 acre-feet of water except in case of extraordinary drought?

Mr. CLAYTON. Yes, sir.

Senator McFARLAND. Regardless of where it comes from?

Mr. CLAYTON. Regardless.

Senator LUCAS. Under the terms of the treaty, does the joint commission have any jurisdiction over Boulder Dam?

Mr. CLAYTON. None whatever; no, sir; not even the American section there.

Senator LUCAS. Following up the question the Senator propounded a moment ago, how would you get water from Boulder Dam when you ran out at Davis Dam?

Mr. CLAYTON. My thinking did not go that far, but I presume we would do as at Davis. All we can do is give the Mexican schedules of deliveries to the operators of Davis Dam and ask them to please handle the operation of the dam so as to firm up water that is already in the river and give Mexico its supply at the border. If they did not do it, I do not know what our remedy would be, except to go into court and try to mandamus them. That would be true also as to Boulder.

Senator LUCAS. You would try to mandamus Boulder Dam?

Mr. CLAYTON. The operators of Boulder Dam.

Senator LUCAS. In other words, if the fact should come to pass, which may not be probable but is possible, the Commission has no jurisdiction over the waters of Boulder Dam?

Mr. CLAYTON. No, sir.

Senator LUCAS. Then, this country would not be able to fulfill its part of the treaty insofar as guaranteeing delivery of that amount of water to Mexico is concerned?

Mr. CLAYTON. That would be my interpretation of it.

The CHAIRMAN. The records over 46 years show an annual flow down the river of 18 million acre-feet?

Mr. CLAYTON. Substantially.

The CHAIRMAN. For a period of 46 years?

Mr. CLAYTON. I believe it was for a period of 46 years.

The CHAIRMAN. With that kind of record in the past 46 years, it is not probable that the river would stop when it got up to 1,500,000 acre-feet in the future?

Mr. CLAYTON. I would not think so; no, sir.

Senator DOWNEY. Mr. Clayton, one of the oldest rights in California in point of priority is an allowance of 112,000 acre-feet to the city of San Diego, for which the United States Government is now building an emergency aqueduct to get that water there. I mean by that statement to say that if this 750,000 acre-feet of what we consider additional water to Mexico is made to fall upon California—and we think it will be considerably more—even half or all of it—the first right in California which would be destroyed would be this right to San Diego.

Let us assume that that condition exists, where we cannot fulfill the various charges in the United States and in Mexico, and we would have to shut off some rights. Who would decide whether that San Diego right should be wholly or partially shut off as compared with some right in Arizona or some right in Nevada, and whose duty and obligation would it be to determine which of the lower-basin States and which projects in the lower-basin States would have to relinquish their water supply to make up this 1,500,000 acre-feet?

Mr. CLAYTON. As between priorities in California which were set up by acts of the legislature of California, as I understand it, it would be entirely a matter for California to decide. As between the States, I think it would be determined entirely by the compact.

Senator DOWNEY. I do not think the compact sets priorities under the conditions outlined here in this treaty.

Mr. CLAYTON. To this extent: The compact apportions 7,500,000 acre-feet to each of the basins, with the right in the lower basin to increase its beneficial consumptive use an additional million acre-feet. That is 16,000,000 acre-feet altogether, including the additional million acre-feet.

Now, there is a provision that if there is any surplus after those allocations, and after any allocation to Mexico, that surplus will be divided after the year 1963, if and when either basin has reached its total beneficial consumptive use of the allocations under the Boulder Canyon Project Act.

The consent of the Congress to the compact was conditioned—and its consent also to the building of Boulder Dam and the other facilities connected with it was conditioned—upon California passing a statute of limitation, limiting her uses to 4,400,000 acre-feet of water plus not more than one-half of the unallocated surplus, which under the compact cannot be allocated until after 1963.

Now, California contracts call for a total of 5,362,000 acre-feet of water, or 962,000 acre-feet over the firm allocation of 4,400,000. In other words, it encroaches on the surplus 962,000 acre-feet, and that cannot become a firm right under the compact until after 1963. So I should say to that extent it was governed by the Colorado River compact, which provides for these allocations. But I do not care to undertake to interpret either the contracts or the compact, because I think that is a matter entirely for the States.

But as far as the obligation of the United States to Mexico is concerned, it is to supply to Mexico 1,500,000 acre-feet of water a year; and if the water is not in the river, to the extent that the water is not already in the river anyway, then the only place to get it is Davis Dam. If a flood-control and regulatory reservoir is built on the Gila River below all points of development, that will furnish some auxiliary supply.

Senator DOWNEY. If you will permit me respectfully to say so, I think the situation is more difficult and complicated than you have stated it; but I do not desire to prolong the discussion.

Senator JOHNSON of California. Whenever you meet a situation where there shall be some division of water, you solve the problem generally by sticking it onto California, do you not?

Mr. CLAYTON. No, sir.

Senator LUCAS. Do you mean, Senator, that they give California more water?

Senator JOHNSON of California. Yes; they give California more water—the other way.

The CHAIRMAN. Mr. Clayton, how long will it take you to conclude?

Mr. CLAYTON. I can summarize in about 5 or 10 minutes, Senator. I shall not undertake a detailed analysis of these administrative provisions.

Senator JOHNSON of California. Except wherever you can poke them at California.

Mr. CLAYTON. I am sorry the Senator takes that attitude, because I disclaim any feeling of that sort. I do not entertain any such feeling; I am sorry you do.

Senator McFARLAND. I am willing to have California take all the pokes, because she has been taking all the water thus far.

The CHAIRMAN. All right. Go ahead, Mr. Clayton. You understand my question as to how long it will take you to conclude? If it will take an hour, it is all right, but we shall then have to recess until tomorrow. I am not trying to crowd you. You may take all the time you feel is necessary. I am just trying to accommodate the committee.

Senator JOHNSON of California. I should like to hear you too. I second very cheerfully the chairman's suggestion.

Mr. CLAYTON. When you analyze the treaty provisions, Mr. Chairman and members of the committee, relating to the administration of it, you find that to this already created agency, the Boundary Commission of 1889, there have been added only narrowly circumscribed powers, sufficient to effectuate the provisions of the present treaty; that is all. They are narrowly limited. The sum total of them—the effect of them—is this: That in order to discharge purely international obligations of the United States and to receive from Mexico rights which the United States has coming from Mexico, there must of necessity be some central agency, and the Commission created under the treaty of 1889 was selected as that agency. The prime purpose is to channel or funnel all the purely international functions through this agency, and through them to the chancelleries of the respective governments.

When it comes to purely domestic functions, whether they be Federal, State, or local, there is no infringement whatsoever.

Senator JOHNSON of California. Chancelleries, you call them?

Mr. CLAYTON. I may be in error.

Senator JOHNSON of California. You are right of course.

Mr. CLAYTON. The object is this: That in dealing with Mexico with respect to this treaty—with respect to the operation and maintenance of the works that are constructed under this treaty—the American section has the right to deal with one Mexican agency, and only one, rather than to deal with the Ministry of Public Works, Communications, and so forth. Then, whatever has to be done in Mexico will be the business of the Mexican section. They can take it up with their respective agencies—internal agencies. Similarly, with respect to Mexico, they have the right to look to some central agency in the United States that they can do business with so as to coordinate all there treaty functions.

Then, we in turn will deal with the Bureau of Reclamation, United States Geological Survey, the War Department, or whatever other agency might be handling a particular domestic function that is of treaty significance.

Senator JOHNSON of California. We are given a choice of selection?

Mr. CLAYTON. The Congress of the United States has absolute choice.

Senator JOHNSON of California. There is one you have forgotten. Excuse me for interrupting.

Mr. CLAYTON. As far as the works are concerned, there are a few works that are specifically enumerated in the treaty. Some of them are already built, and the use of them is required in part for the delivery of water to Mexico, in which case Mexico pays a proportionate part of the cost. Others must be built on the Rio Grande. As I say,

the only ones specifically provided for are three international storage dams. Aside from them and perhaps certain diversion works any other works must await the result of investigation and approval by the two Governments and appropriations by the National Congresses.

On the Colorado, the works mentioned are the Davis Dam, already authorized for construction; the Imperial Dam; and the All-American Canal, under the jurisdiction and control of the Bureau of Reclamation which will continue to operate and control them; and some works of very relative minor importance in the neighborhood of the river. But as far as all the works are concerned, whatever their character, they are subject, of course, to governmental supervision and the operation of those duly constituted interior agencies that are now vested by Congress with the power to construct them or to operate and maintain them. That relates to works.

As far as the settlement of disputes and the discharge of administrative functions are concerned, the treaty in almost every case provides that the decision of the Commission is subject to the veto power of either Government, which may be exercised within 30 days after the decision of the Commission. With respect to a great many of these works, and matters of administration, particularly those relating to works, the express advance approval of the Governments is required. But with respect to all others, under the provisions of article XXV of the treaty each of the two Governments has express veto power in each case. If either Government vetoes it, then it becomes a matter for international negotiation.

I have covered this somewhat haphazardly in attempting to answer the questions asked of me.

The CHAIRMAN. You will be available later.

Senator McFARLAND. There is one question I should like to ask, if I may. What agency of the Government is going to say from where or the source from which this water is going to be supplied? Is it going to be the Commission or the Department of the Interior? Who is going to say? Someone has got to have responsibility.

The CHAIRMAN. The treaty defines that it comes out of Davis Dam.

Mr. CLAYTON. It is the only place it can come from.

Senator McFARLAND. Is your answer the Department of the Interior?

Mr. CLAYTON. Well, they have no discretion in the matter—I mean in the operation of the dam—but to firm up return flow so as to meet the Mexican schedules. If there is only, say, 300 second-feet in the Colorado River and you need 500 in order to supply Mexico, 200 second-feet must be released from Davis Dam. Of course, that all comes from upstream.

Senator McFARLAND. You can see why I am asking this question. There are going to be differences of opinion as to where this water comes from.

Mr. CLAYTON. Yes, sir.

Senator McFARLAND. Who is going to interpret and say where it shall come from?

Mr. CLAYTON. As I say, it is provided for in the treaty. The Boundary Commission certainly has nothing to say about that.

Senator McFARLAND. Well, what is your answer?

Mr. CLAYTON. As to what agency?

Senator McFARLAND. Yes.

Mr. CLAYTON. There is no agency that has any discretion in that matter, Senator.

Senator McFARLAND. Well, suppose this goes ahead here, and they order 1,500,000 acre-feet of water down the river. Then suppose there is a group of people now using the river and distributing the water. Who is going to say who has the distribution of that water? Who is going to say from where it shall be supplied? Someone has got to say.

Mr. CLAYTON. Senator, all the water upstream from Davis Dam finally finds its way into that structure, does it not?

Senator McFARLAND. Well, I hope it does not, because we in Arizona hope to take some of it out before it gets down.

Mr. CLAYTON. I see your point; but, except what is diverted, the water ultimately will find its way into Davis Dam.

Senator McFARLAND. If Senator Johnson will let us, we want to get a little water.

Senator TUNNELL. As I understood you, Mr. Clayton, the average flow for 46 years, or something like that, has been about 18,000,000 acre-feet?

Mr. CLAYTON. Yes, sir.

Senator TUNNELL. What has been the lowest amount?

Mr. CLAYTON. I could not answer you, Senator; I do not have the figure in mind.

Senator TUNNELL. Has it ever been as low as 1,500,000 acre-feet?

Mr. CLAYTON. No, sir; it never has been that low.

Senator McFARLAND. I shall not ask any more questions now. The hour is late, and I know Mr. Clayton is tired. However, we may want to call him back.

Senator DOWNEY. Could we have him here for just a few minutes tomorrow morning, Mr. Chairman?

The CHAIRMAN. He will be here and available.

Senator DOWNEY. The matter is of such great importance, that we should like to have him here.

The CHAIRMAN. The committee is trying to be very generous.

Senator DOWNEY. You have been very courteous and generous.

The CHAIRMAN. We will meet tomorrow in room 357. The Finance Committee, whose room this is, has a meeting here, so we will meet tomorrow morning in room 357 at 10:30.

(At 5 p. m. an adjournment was taken until Thursday, January 25, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

THURSDAY, JANUARY 25, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The Committee met pursuant to adjournment, at 10:30 a. m., in room 357, Senate Office Building, Senator Tom Connally, chairman, presiding.

Present: Senators Connally (chairman), Tunnell, Lucas, Johnson of California, and La Follette.

Also present: Senators Downey, Hayden, McFarland, Millikin, and Murdock.

The CHAIRMAN. The committee will come to order. Senator Thomas of Utah desires the record to show the reason for his absence from this hearing this morning. He was chairman of the conference that wrote the Surplus Property Act, and it was necessary for him to attend a meeting today with the new Commission which has been set up to administer that law.

Senator DOWNEY. Mr. Chairman, could we have Mr. Clayton recalled for a few rather short questions?

The CHAIRMAN. If the questions to Mr. Clayton will be few and short, I will do it.

Senator DOWNEY. As far as my questions that I have to ask are concerned, they can be answered almost immediately, in very few words. That is, if Mr. Clayton answers the questions. Of course, if he goes into a long discussion, it might take longer.

FURTHER STATEMENT BY FRANK B. CLAYTON, COUNSEL, AMERICAN SECTION, INTERNATIONAL BOUNDARY COMMISSION

The CHAIRMAN. Mr. Clayton, had you about concluded your testimony yesterday?

Mr. CLAYTON. Yes, sir; I had concluded, Senator.

The CHAIRMAN. Senator Downey wants to ask you a few questions.

Senator DOWNEY. Mr. Clayton, yesterday we were discussing the meaning that should be properly given in the treaty to the expression "guaranteed annual quantity of 1,500,000 acre-feet of water" for Mexico. Now, would you tell us how you would think the meaning or effect of that treaty might be varied, if the word "guaranteed" were stricken out?

Mr. CLAYTON. I do not think it would make any material difference, Senator.

Senator DOWNEY. Then do you think that Mexico would consent that that word go out?

Mr. CLAYTON. I do not know about that, whether they would consent or not. The treaty is written the way it is.

Senator DOWNEY. But if your opinion is correct that the word "guarantee" does not make any difference, then would you not think they would?

Mr. CLAYTON. I think, either way, Senator, that Mexico would be entitled to 1,500,000 acre-feet of water a year.

Senator DOWNEY. All right. Now, let me ask you this. At whose suggestion was the word "guaranteed" put in?

The CHAIRMAN. I do not think that is quite proper. I do not know whether it makes any difference or not, but I do not suppose these gentlemen can go into the details of every line in the treaty, as to who suggested each word, just as a matter of fairness. I am not going to deny your question, but I suggest that, as a matter of fairness.

Senator DOWNEY. Mr. Chairman, if you think it is not a fair or proper question, I will withdraw it. I might say this to the chairman, that we are very positive after a careful examination of this treaty that the language does in effect give Mexico a first and prior right on the river ahead of all other rights on the river.

The CHAIRMAN. That is perfectly all right, you are entitled to make your contention, and you are listed with about 15 other witnesses for a very generous portion of time later on, in which I suppose you would make your main argument.

I do not think that you ought to attempt every time a witness comes on to make all of your main arguments and then just repeat them every time a witness comes on. I do not think that is quite in the interest of time; but I want to be generous. I have not tried to curtail you at all, and I cannot. Go ahead.

Senator DOWNEY. I appreciate the courtesy of the chairman.

Very well, Mr. Clayton, for the present we will abandon that point.

In the same article, article 10, in which appears that expression, is this paragraph:

In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet * * * a year, the water allotted to Mexico under subparagraph (a) of this article will be reduced in the same proportion as consumptive uses in the United States are reduced.

Is there any place in the treaty that the expression "consumptive uses" is defined, so we have any standard in the treaty itself from which we can work?

Mr. CLAYTON. I do not believe the term "consumptive uses" is defined in the treaty, Senator. It has a well-defined meaning, and I believe there is a definition of it in the Boulder Canyon Project Act, which would at least guide the American authorities. As I said yesterday, that determination will in all likelihood be made by the Bureau of Reclamation that operates the dam.

Senator DOWNEY. Of course, I know what, in irrigation law, we mean by "consumptive uses." That means the actual amount of water that is consumed and does not return again to the stream or for underground pumping; but what I mean is, here, now, as I stated yesterday, one of our lowest—

Mr. CLAYTON (interposing). I beg the Senator's pardon. "Consumptive uses" is defined in the treaty.

Senator DOWNEY. Yes; I understand it is defined, in the sense of the irrigation term, Mr. Clayton; but if you will be patient with me—and I am totally adrift on this, you see—

will be reduced in the same proportion as consumptive uses—

I do not mean consumptive uses in just a strict technical sense as an irrigation term. I mean, what irrigation rights will be reduced; and you used “consumptive uses,” there. There is no definition at all in the treaty as I see it as to what rights in the United States must be affected before, by reason of “extraordinary drought,” there is some curtailment in Mexico. Do I make myself clear, now?

Mr. CLAYTON. In article 1 of the treaty, Senator, in subparagraph (j), “consumptive use” is defined to mean—

the use of water by evaporation, plant transpiration, or other manner whereby the water is consumed and does not return to its source of supply. In general it is measured by the amount of water diverted less the part thereof which returns to the stream.

I believe that is substantially the definition that is found in the Boulder Canyon Project Act.

Senator DOWNEY. Yes; I understand, Mr. Clayton, and for that reason I think this treaty, from the standpoint of a lawyer, is utterly improperly drawn, in view of that definition in the treaty. Now, let me read this again to you—

will be reduced in the same proportion as consumptive uses in the United States are reduced—

Do you not mean, to the same extent that certain water rights in the United States cannot be satisfied? Is that the meaning?

Mr. CLAYTON. That is substantially right, Senator. As a matter of fact, “consumptive uses” was put in there advisedly, because I believe that the project act itself uses the term.

Senator DOWNEY. Well, all right. Let me recast the question in a more practical way, from my viewpoint. You have already shown that you are familiar with the water rights and the priority as set up in the State of California. As you know, one of our latest water rights in California is the one of the city and county of San Diego, 112,000 acre-feet of water. The United States Government as a matter of emergency is now beginning the construction of an aqueduct to carry Colorado River water to San Diego from the Colorado River aqueduct, under that water right.

What I want to ask you is this. Assume that San Diego begins to use that 112,000 acre-feet of water. Now, is it your opinion that under the terms of this treaty, whenever it became impossible by reason of extraordinary drought to supply that water to San Diego, then, and then only, we would begin the diminution of the water right of Mexico?

Mr. CLAYTON. As far as the priority is concerned, Senator, it is purely an internal affair. The priorities were set up in the State of California, and I presume they could be changed there. It might be seriously contended that senior priorities should be given to domestic use over any other use, for power or for irrigation or for anything else, but that is not a point with which we are concerned, because, as I say, it is purely an internal matter with the State of California.

Now, if the curtailment of any uses in California or anywhere else in the basin were because of extraordinary drought, then the deliveries

to Mexico would be correspondingly diminished. By "correspondingly diminished" I mean the over-all uses. In the proportion that the over-all consumptive uses in the United States are curtailed, the deliveries to Mexico would be correspondingly curtailed.

Senator DOWNEY. All right. Let us approach it from that standpoint. You decide that, in your opinion, interpreting the treaty, there would be an "extraordinary drought" under the terms of the treaty whenever the water in the Colorado River Basin fell as low as the run-off was in the two low decades of the last 44 years?

Mr. CLAYTON. I think beyond any doubt those were extraordinary droughts; yes, sir.

Senator DOWNEY. You would so define them? I mean, would that become your definition or standard of "extraordinary drought," and that we would take that as our standard of what constituted "extraordinary drought"—those two decades?

Mr. CLAYTON. I think that would be some measure. I do not mean that that is an infallible measure that would necessarily have to be used, but I do not think any thinking person would doubt that those two periods represent an "extraordinary period of drought."

Senator DOWNEY. Mr. Clayton, quite respectfully let me suggest that there would seem to be a considerable doubt of that kind. We only have the measurements for 44 years. During 40 percent of that period of time the water has fallen to a condition that you would describe as "extraordinary drought." I think that properly could be termed a drought decade or period; but I do not see, if that 44 percent—

The CHAIRMAN (interposing). Senator, is that a question or an argument?

Senator DOWNEY. Perhaps it is not a question.

The CHAIRMAN. I want to be generous with you.

Senator DOWNEY. I understand, Mr. Chairman.

The CHAIRMAN. I do not think we ought to consume the time now by making arguments when you have been allotted time, when you requested it, and a great host of witnesses; but go ahead, if you desire. I will be courteous to every Senator.

Senator DOWNEY. Mr. Chairman, I appreciate the correctness of your criticism, but let me say this, that after many months of study on this treaty we cannot see that there is any standard set up in the treaty by which we could judge of a future condition.

The CHAIRMAN. Senator, that is what we allotted you all this time for. There is a proper time for you to do it, but to make a speech here addressed to the witness when there is not a question I think it is hardly fair; but go ahead. I will not interfere with you.

Senator DOWNEY. I will not make any further comment in order to try to give the witness an idea of my own bewilderment and confusion. Just let me ask Mr. Clayton this.

Mr. Clayton, can you, any further than you have already, express to us your idea of how we in the United States would measure our respective rights and priorities as against Mexico in times that you would call those of "extraordinary drought" and in those times that you would not describe as that condition?

Mr. CLAYTON. Do you mean, Senator, as between priorities which are set up in the United States?

Senator DOWNEY. Yes; both that and likewise the total of the United States. I think, Mr. Clayton, that we can see innumerable difficulties that would arise under the terms of this treaty, that would not be met by any language in the treaty; but of course, abiding by the suggestion of the chairman, which I think is wholly correct, we will save those questions, to be raised by our own witnesses; and so, Mr. Chairman, I will not ask the witness any more questions.

Senator McFARLAND. Mr. Chairman, I would like to ask the witness just one question.

The CHAIRMAN. Senator McFarland.

Senator McFARLAND. Mr. Clayton, as I understand, your opinion in regard to this treaty is based on the engineering data that there will be approximately 900,000 acre-feet of return flow water in the river, which will augment the supply?

Mr. CLAYTON. That is one consideration, Senator, that enters into it. It is not by any means the only consideration.

Senator McFARLAND. Yes, I understand that; but what I wanted to get at was just this, if I may. I could really have eliminated that statement, but I wanted you to understand it.

Mr. CLAYTON. Yes, sir.

Senator McFARLAND. Would your opinion in regard to the treaty be changed if in fact there should not be that much return flow of water? If there should be say 400,000 or 450,000 acre-feet of return-flow water, do you still think it would be a treaty which we should ratify?

Mr. CLAYTON. Yes, Senator; I do. I think if all of the 1,500,000 acre-feet were firm water, just like the offer that was made in 1929, the treaty would still be highly advantageous to the United States, because it would put an end to the speculation, and consequent unrest, that has arisen in the basin as to what the rights of Mexico might finally be determined to be, and even if you had to supply firm water to the extent of 1,500,000 acre-feet, we are still speaking with respect to about 8 percent of the waters of the Colorado River Basin, and that, despite the fact that Mexico was using substantially in excess of that figure at that time, and all the precedents that we have, both domestic and international, start out on the basis of protecting the rights that are existing at the time the treaty is signed.

I am not now trying to recapitulate all the factors that enter into it, Senator, but I think those are very persuasive; at least, to my mind they are.

Senator McFARLAND. Thank you very kindly. I want to say, Mr. Clayton, that I do not want you to get the impression that we are trying to be critical of you when we ask you some questions.

Mr. CLAYTON. No, sir; I do not have that impression, Senator.

Senator McFARLAND. I think that you have shown that you have given a lot of study and consideration to the problem.

Mr. CLAYTON. Thank you. I do not wish to avoid any questions. I would be glad to answer any questions.

Senator McFARLAND. I know you would.

The CHAIRMAN. Thank you, Senator McFarland. I think that is a fair tribute to the witness. He certainly has shown a competency to answer the questions asked with regard to the problem. Are there any other questions?

Senator JOHNSON of California. I want to ask——

The CHAIRMAN. Senator Johnson.

Senator JOHNSON of California. Are you related to the Assistant Secretary of State?

Mr. CLAYTON. I think he disclaims any relationship, Senator. Unfortunately, I do not think there is any.

Senator JOHNSON of California. He disclaims it?

Mr. CLAYTON. I think he disclaims it; yes, sir.

Senator JOHNSON. Well, you know who he is?

Mr. CLAYTON. Yes, sir. I have even met him. I met him once.

Senator JOHNSON of California. You know that he has a great deal of land down in the Valley there that he is unable to farm because of the Boulder Dam?

Mr. CLAYTON. I have no personal knowledge of his owning any land in the Mexicali Valley in Lower California. I may be mistaken, but my understanding is just the contrary.

Senator JOHNSON of California. Just the contrary?

Mr. CLAYTON. Yes, sir.

Senator JOHNSON of California. What is the contrary?

Mr. CLAYTON. That he does not own any land down there. As I say, I have no personal knowledge of that.

Senator JOHNSON of California. It is a very large amount of land that he farms down there, is it not?

Mr. CLAYTON. I understand that the firm of Anderson & Clayton does some financing in the Mexicali Valley, in Mexico.

Senator JOHNSON of California. I beg pardon?

Mr. CLAYTON. I say my understanding, Senator, is that the firm of Anderson & Clayton does some financing down there. Just how extensive it is, I have no knowledge.

Senator JOHNSON of California. They have some lands down there, have they not?

Mr. CLAYTON. Not to my knowledge, Senator. They might have, but I do not know about it, if they do.

Senator JOHNSON of California. They have none, then? We will put it either way.

The CHAIRMAN. He said he did not know.

Senator JOHNSON of California. We will put it either way—either they do have a very large tract of land down there or they have none?

Mr. CLAYTON. I really could not say, Senator.

Senator JOHNSON of California. You know nothing of that?

Mr. CLAYTON. No, sir.

The CHAIRMAN. The Assistant Secretary of State, Mr. Will C. Clayton, is here in Washington, and I suppose he is available. If you want to ask him for any of the facts on that, we will bring him here, Senator, so you may interrogate him.

Is there anything else you care to submit, Mr. Clayton?

Mr. CLAYTON. No, sir.

The CHAIRMAN. All right. Thank you very much. The committee has enjoyed your testimony.

Mr. Lawson, would you like to resume now, to conclude your testimony?

Mr. Lawson will resume where he left off the other day.

STATEMENT OF L. M. LAWSON, AMERICAN COMMISSIONER, INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND MEXICO—Resumed

Mr. LAWSON. Mr. Chairman, may I ask a question on procedure?
The CHAIRMAN. Yes.

Mr. LAWSON. Can I assume that the treaty, the protocol, and the statement by the Commissioner, a copy of which has been circulated with the committee, is a part of the record?

The CHAIRMAN. The treaty and the protocol, of course, are, and any statement that you wish to make. If you will submit to the stenographer the statement you refer to, we will put it in the record.

Mr. LAWSON. I asked that question, Mr. Chairman, because I would like, if possible, to preserve some continuity of the presentation, and I think it can be better secured if this statement, a great deal of which has already been read, is made a part of the record.

The CHAIRMAN. Very well.

Mr. LAWSON. May I submit it as a part of the record?

The CHAIRMAN. You may submit it. Without objection on the part of the committee, it will be printed in the record.

(The statement by the Commissioner is as follows:)

STATEMENT BY COMMISSIONER, UNITED STATES SECTION, INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND MEXICO, ON WATER TREATY WITH MEXICO, SIGNED AT WASHINGTON, FEBRUARY 3, 1944, WITH SUPPLEMENTS NOS. 1 AND 2 CONTAINING EXHIBITS PERTINENT TO THE TREATY

GENERAL STATEMENT ON INTERNATIONAL WATER TREATY, UNITED STATES AND MEXICO, 1944

An important and serious problem of many years' standing has been the question of the equitable distribution of the international waters of the lower Colorado River and the Rio Grande. The continued development in both countries dependent upon the use of these waters has annually added to the gravity of the situation, involving, as it does, the development in both the United States and Mexico of large acreages of irrigated areas, the establishment of communities, and investments of many millions of dollars.

Various forms of attention have been given to the problem, based upon reports, investigations, and congressional direction in the form of establishing cooperative work between the United States and Mexico. All of this constitutes the genesis and the basis of the present presentation, covering a proposed agreement between the two countries for a final settlement of the question between the two sovereign nations of the present and future use of the international water supply so vital to the existence of the peoples of both countries in the areas where utilization of such waters is the sole source of a continuance of domestic and economic life.

The two rivers present, in many features, entirely different physical characteristics. The Rio Grande forms the boundary line between the United States and Mexico for over 1,200 miles between El Paso, Tex., and the Gulf of Mexico and is a typical boundary river, with tributary contributions from both countries. The Colorado River, on the other hand, flows successively through or by seven Western States, into Mexico, and is for only a few miles the international boundary line.

Despite the actual and growing international uses of the water supply in these two streams, the only agreement or treaty in effect on the subject of equitable use is that approved by the Senate in 1906, which provides for the delivery to Mexico at El Paso of an amount of water from Rio Grande sources entirely in the United States, for the irrigation of an area in the Juarez Valley on which waters of the Rio Grande had theretofore been beneficially applied.

RIO GRANDE

In recognition of this principle, the Congress appropriated funds to provide a proportional part of the cost of a storage structure on the Rio Grande 125 miles above the boundary line, an amount sufficient to insure in perpetuity the delivery, in scheduled amounts, of water allocated for use on Mexican lands. The United States also assumed the cost of delivering, at the boundary line, the water so allocated. To facilitate this delivery, the Congress later authorized, and provided funds for, the construction of the Rio Grande canalization project. This project was designed to regulate and control the water supply released from the storage reservoirs above El Paso for the irrigation of American lands and for delivery at the boundary line of Mexico's allocation. The American dam feature at El Paso provides the means for controlling and measuring Mexico's water. The treaty of 1906 covered the allocation of waters of the Rio Grande only to Fort Quitman, Tex., a point situated some 80 miles below El Paso. In addition to the general advantages of water storage, provision was later made for the elimination of the adverse effects of conservation on a silty stream, in the form of the construction of flood-control works, the straightening of the river channel, and levee building, which features were included in the treaty of 1933 between the United States and Mexico, called the Rectification Treaty.

Below the lower limits of this area, the Conchos River in Mexico provides the largest amount of usable water and is, in fact, the beginning of the lower Rio Grande. Measurements made over a number of years have very definitely shown that the contributions from Mexican tributaries equal 70 percent of the supply, and the contribution from the United States—largely from the Pecos and Devils Rivers—constitute 30 percent. Small, separated, irrigated areas have been developed from this international supply in the upper portion of this lower Rio Grande area, while in Cameron, Hidalgo, and Willacy Counties of Texas a large number of separate irrigation districts have developed an area of over a half million acres, with corresponding community and other values.

In general terms, there exist a million acres in each country which could be irrigated from the Rio Grande if the water supply were sufficient. On the Mexican side, relatively small development was in progress until recently. Two large storage structures have been built in Mexican territory, controlling to a small extent the use of the water and flood conditions.

An average of nearly 4,000,000 acre-feet of floodwater annually discharges unused to the Gulf of Mexico. The variability of Rio Grande flow is indicated by the range of this flow from zero to 600,000 second-feet. Complete and very definite records of flow and individual tributary contributions have been maintained by both sections of the International Boundary Commission, as well as records of the areas irrigated and irrigable from this river's supply.

A large portion of this wasted supply consists of floods which cannot be put to beneficial use and which alternate with periods of drought during which the supply of the lower Rio Grande Valley in both countries is deficient for the irrigation of the presently developed areas.

To correct the uneconomic waste of water into the Gulf and to provide for further development in both countries, the treaty contemplates the construction of storage reservoirs on the main stream which will protect existing improvements and provide for an expansion of irrigated areas in both countries. These reservoirs will also afford benefits arising from better flood control than either nation was able to provide acting alone and will also make possible the production of a considerable amount of electric energy which will aid in the development of mining and other activities in both countries.

The treaty allocates definite amounts of water for the use of each nation and makes provision for the means by which such allocated water may be conveyed in and diverted from the channel of the river.

The treaty also provides for additional works along the river in the nature of flood-control levees and river rectification, anticipating in this way the possible effects on the stream's regimen of the regulation of silt and flood flows in the reservoirs.

COLORADO RIVER

Probably no stream in the United States has been given more intensive study from the standpoint of its utilization than the Colorado River. Rising in Wyoming and Colorado, its basin embraces portions of the States of Wyoming,

Colorado, Utah, New Mexico, Arizona, Nevada, and California. The area of the river basin in the United States is 242,000 square miles. It crosses the international boundary line west of Yuma, Ariz., and, for about 20 miles, is the boundary stream, then passes wholly into Mexican territory and empties into the Gulf of California about 100 miles south of the lower international boundary line.

Storage sites for the conservation and utilization of the wide variations in natural flow exist only in the United States. Irrigable areas of fertile delta soil deposits, feasible of development and of equal extent, exist in both the Imperial Valley of southern California and the Mexicali Valley in Mexico. Actual navigation of the river was carried on immediately following the end of the Civil War and before the construction of railroad facilities. During the period 1896-1902, surveys and construction were begun by the California Development Co. for a canal heading in the United States a short distance north of the boundary, then passing into Mexican territory for about 43 miles along the old Alamo Channel before it turned back into the Imperial Valley. A filing made for the California Development Co. for 10,000 second-feet of water from the river was followed by a contract entered into with a Mexican company organized for that purpose under authority from the Mexican Government, whereby one-half of the water carried by the canal was to be available for the use of Mexican lands. Under this procedure, and the provisions of the contract, irrigation development began in the two areas but was interrupted by the discharge of the entire river flow into the Salton Sea in 1905 and during the successful efforts made by the Southern Pacific Railroad Co. in 1906 and 1907 in effecting closure of the break. The Congress appropriated \$1,000,000 in 1910 for the protection of lands and property in the Imperial Valley, and the construction of levee work was accomplished in Mexico under this authority and appropriation. In 1905 construction of Laguna Dam was begun. This structure, about 1 mile in length, was located on the Colorado River about 14 miles above Yuma, Ariz. It provides for the diversion of Colorado River waters to serve a relatively small area of land in California and a larger area in the Yuma Valley. In order to provide storage to ameliorate conditions caused by a continuance of low-water periods and a wide variation of flows, the construction of Boulder Dam, with a capacity of 31,000,000 acre-feet, was completed in 1935.

Included in the Boulder Canyon project act was a provision for the construction of the All-American Canal and a diversion dam which would make unnecessary the joint use of the Alamo Canal in Mexico. The All-American Canal was put in operation in 1942, and operations by the Imperial irrigation district were continued in the delivery of water to Mexico through the formerly jointly used facilities of the heading in the United States and the Alamo Canal located in Mexico.

River discharges at the international boundary line, with the storage facilities provided upstream, have made available to Mexico large amounts of divertible and usable flows. The irrigated area in Mexico, served both from diverted flows from the Alamo Canal as well as by pumping and gravity systems in the lower river, has been greatly increased, reaching during the year 1943 in excess of 300,000 acres, using approximately 1,800,000 acre-feet of lower Colorado River flow.

The International Water Commission, created in 1924, failed to reach an agreement. The Mexican demand for an allocation of Colorado River flow amounting to 3 600,000 acre-feet annually evidently had as its basis the one-half of the flow granted to Mexico under the original filing for 10,000 second-feet and the concession contract for the use of the Alamo Canal. The section of the United States offered 750,000 acre-feet of scheduled water, delivered at the head of Mexico's laterals, which would amount to about 1,000,000 acre-feet of diverted flow. The maximum diversion by the Imperial irrigation district, under the concession granted by Mexico referred to above, was in 1929, when 3,400,000 acre-feet of water was diverted during that year for use in the Imperial Valley and on Mexican lands in the Mexicali Valley. If Mexico, by reason of its readiness or economic status, had been able to utilize one-half of this amount, as provided by the concession, its share would have been 1,700,000 acre-feet. Although the construction of the All-American Canal, wholly in the United States, caused the abandonment of the former use of the Alamo Canal in Mexico for the supply of American lands, some allocation of water to Mexico was anticipated both in the Colorado River compact between the several States in the United States and in the Boulder Canyon Project Act. Delivery of water to Mexico through the All-American

Canal was made possible by the provision for a capacity, in addition to that required for the irrigation of lands in the United States, of 3,000 cubic feet per second, which, if fully utilized for power development throughout the year, would produce a discharge available to Mexico of over 2,000,000 acre-feet.

The largest recorded floods on the lower Colorado River have been the result of the joint discharge of the Gila and Colorado Rivers, with the proportion from the Gila larger than that from the entire Colorado River Basin. Flood control, including channelization of the lower Colorado, is a definite requirement to fully protect lands both in the United States and in Mexico. An important feature of this would be a storage dam on the lower Gila, coupled with a reconstructed levee system to remove the menace of flooding of irrigated areas, as well as any repetition of the river change to the below-sea-level valley lands largely in the United States.

The treaty now before the Senate will settle for all time the question of how much of the Colorado River's water must be delivered to Mexico and will thus allow present developments in the United States to continue and future developments to proceed upon a firm basis.

The treaty allocation to Mexico will not materially curtail anticipated uses in the United States, since over one-half of Mexico's allocation, under ultimate conditions of development in the United States, will consist of return, waste, and flood flows which would flow into Mexico even without a treaty.

Under certain conditions of development in the United States the amount of firm water that will be required for delivery to Mexico, under the treaty provisions, will be less than 3 percent of the water that will be put to beneficial use under ultimate development within the United States. In this case, the amount of firm water to be delivered to Mexico is estimated as about 450,000 acre-feet per annum. Any detriment from a reduction in development in the United States that might result from this delivery of firm water to Mexico is more than offset by the benefits derived from the settlement of the water question between the two countries. In the case of the Rio Grande above Fort Quitman, Tex., the treaty of 1906 allotted to Mexico a firm supply amounting to 8 percent of the proposed beneficial use in the United States, and Congress appropriated the funds necessary to deliver this quantity free of cost to Mexico.

In addition to establishing and limiting forever Mexico's rights to the waters of the river, the treaty provides for the use of existing facilities and construction of new facilities where these are needed to carry out the provisions of the treaty.

A diversion dam is provided without which Mexico would be unable to make use of return flows which form so large a portion of her allotment.

Construction of certain needed connecting canals is provided for. These are to be built at the expense of Mexico.

Construction of the Davis Dam in and by the United States, becomes obligatory under the treaty. However, the construction of this dam by the Bureau of Reclamation has been previously authorized by the Congress and funds for the initial construction stage have been appropriated. Construction has been temporarily suspended due to the war emergency.

The treaty contemplates the study of any additional flood-control works needed along the Colorado, both in the United States and Mexico, and thus makes provision to guard the lands of the United States Yuma project and those of the Imperial irrigation district, as well as those in Mexico, from floods.

STATEMENT BY THE UNITED STATES SECTION, INTERNATIONAL BOUNDARY COMMISSION

I. COLORADO RIVER

A. Description of drainage area and history of development.

1. *General description of drainage area.*—The Colorado River rises in the United States and flows for a distance of about 1,400 miles to the Gulf of California. For about 20 miles the river forms the boundary between the United States and Mexico, and about 100 miles of its distance is entirely in Mexico. The drainage area of the river in the United States embraces portions of the States of Wyoming, Colorado, Utah, New Mexico, Arizona, Nevada, and California, the States of Wyoming and Colorado contributing about 80 percent of the entire water supply. The area of the river basin in the United States is 242,000

square miles and in Mexico 2,000 square miles. The drainage area by States is as follows:

	<i>Square miles</i>
Wyoming -----	19, 000
Colorado -----	39, 000
New Mexico -----	23, 000
Utah -----	40, 000
Arizona -----	103, 000
Nevada -----	12, 000
California -----	6, 000
 In United States -----	 242, 000
Mexico -----	2, 000
 Total -----	 244, 000

("Report of the American section of the International Water Commission, United States and Mexico," H. Doc. No. 359, 71st Cong., 2d sess., p. 71.)

Commencing shortly below Lee Ferry, about 725 miles above the river's mouth, the stream flows for about 400 miles through a precipitous canyon country before it enters the agricultural areas of the lower basin in the United States. Lee Ferry constitutes the division point between the upper basin and the lower basin, which are thus separated both physically and climatically. This division between the two basins forms the basis for the allocation of waters provided for in the Colorado compact, which will be referred to in a later paragraph of this statement.

2. *Water supply.*—The water supply of the Colorado River is derived largely from the snow that accumulates in the mountains of the upper basin during the winter months and which melts to cause the usual spring floods. Records of the flow since 1897, has been estimated as about 16,200,000 acre-feet at this point. has passed that point annually since 1922. The reconstructed flow, or the virgin flow since 1897, has been estimated as about 16,200,000 acre-feet at this point. Additional inflow above Boulder Dam would increase this amount to about 17,400,000 acre-feet as the virgin inflow into Lake Mead. Below Boulder gains are sufficient in amount only to slightly more than offset channel losses making the virgin flow at Yuma about 17,600,000 acre-feet annually. The average historical or observed flow at Yuma for the period from 1902 until Boulder Dam was placed in operation in 1935 was slightly in excess of 15,400,000 acre-feet per year. Subsequent to the placing in operation of Boulder Dam the average flow at Yuma has been greatly reduced, particularly during the few years while Lake Mead was filling.

3. *Floods.*—Prior to the placing in operation of Boulder Dam, floods resulting from melting snow were annual in occurrence and fairly regular in their distribution, extending in most cases from May through July. Such floods frequently exceeded 100,000 cubic feet per second at Yuma in rate of discharge, and the long-sustained flow caused marked river meanders, making levee maintenance costly. Another type of flood, local to the lower river and its main tributary, the Gila River, results from winter storms on the desert area south of Boulder Dam. Such floods, proceeding mainly from the drainage area of the Gila River, have caused peak discharges at Yuma as high as 240,000 cubic feet per second, with consequent damage to works below that point.

In 1905, before protective works were provided, the river broke away from its natural course in Mexico and followed the Alamo Channel through Mexico and the Imperial Valley of California to discharge into the Salton Sea. After this break was closed and the river was returned to its old channel in 1907, began a program of levee-building, which continued to about 1929. During this time, Yuma and the irrigated areas in that vicinity were protected by the construction of levees along the river, and an extensive levee system was built on the west side of the river in Mexico to protect the Mexicali and Imperial Valleys. The levees in the vicinity of Yuma were built by the Bureau of Reclamation, and it is understood that the Imperial Irrigation district built and financed a part of those located in Mexico. The Congress appropriated \$1,000,000 for the construction of the Ockerson levee in Mexico as an aid in this program. The Imperial Irrigation district estimates its construction of levees in Mexico as costing about \$1,600,000.

4. *Irrigation development.*—At the beginning of this century there were irrigated in the upper basin in the United States about 530,000 acres of land and

in the lower basin about 205,000 acres, most of this from the Gila River in New Mexico and Arizona, with a small acreage in the Palo Verde area in California. By 1940 these uses had expanded so that, in that year, about 1,312,000 acres were being irrigated in the upper basin and about 1,323,000 acres in the lower basin in the United States and 190,000 acres in Mexico.

Irrigation development in Mexico and in the Imperial Valley in California started with the construction by the California Development Co. of the Imperial canal system between 1896 and 1901. The Alamo canal heads in the United States a short distance above the upper international boundary, and proceeds through Mexican territory about 43 miles, recrossing the boundary into California in the vicinity of Calexico. Difficulties were experienced because of the canal passing through Mexican territory, and in order to operate in that country a Mexican subsidiary of the California Development Co. was organized and was granted the right by the Mexican Government, by contract dated May 17, 1904, to carry through the Alamo canal 10,000 second-feet of water. Mexico was given the right to devote half of the water passing through this canal to the irrigation of Mexican lands.

A filing on 10,000 second-feet of water to be diverted at a point a short distance above the international boundary was made in 1895 and renewed from time to time thereafter, the last filing being in 1899. The filings were made on behalf of the California Development Co., which was succeeded by the Imperial irrigation district in 1916.

Expansion in both countries was rapid until about 1920, by which time the irrigated acreage in this area in both countries had reached more than half a million acres. Total diversions through the Alamo canal have exceeded 3,000,000 acre-feet annually during almost every year between 1925 and 1941. Although Mexico was entitled to the use of half of this water, in practice, prior to the placing in operation of Imperial Dam and the All-American Canal, about two-thirds of the water so diverted was used in the United States and one-third in Mexico. There has been a rapid increase in irrigation uses in the Mexicali Valley since the construction of Boulder Dam, the total area irrigated there in recent years being in excess of 300,000 acres. In 1943 more than 1,800,000 acre-feet of water of the Colorado River was diverted for use in Mexico.

The placing in operation of the All-American Canal in 1942 now permits the delivery of water to California lands entirely through American territory, and thus free of Mexican control. Approximately 450,000 acres are now being irrigated in the Imperial irrigation district. Future expansion to include the Coachella division in the Imperial Valley may double this figure. In the Mexicali Valley also, there is opportunity for great expansion in the future. Estimates of the areas in Mexico readily irrigable from the Colorado River vary from 800,000 to 1,000,000 acres.

5. *The Colorado River compact.*—Because of the rapid growth of population in the lower basin in the United States, there grew a demand for more intensive development of the lower Colorado River. Such development necessitated the building of a storage dam and appurtenant facilities for the conservation and use of the waters of the river in the lower basin, and this in turn required some agreement among the States as to an allocation of the available water supply. The result was the formulation of the Colorado River compact, which was signed at Santa Fe on November 24, 1922.

For the purposes of this compact the Colorado River system is divided into an upper basin, comprising the drainage area above Lee Ferry, and the lower basin, comprising the drainage area below that point. The States of Colorado, New Mexico, Utah, and Wyoming formed the "upper division" for the purpose of the application of the provisions of the compact, and the States of California, Arizona, and Nevada formed the "lower division."

Paragraph (a) of article III of the compact apportions to the upper basin and the lower basin, respectively, the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum. Paragraph (b) gives to the lower basin, in addition to the apportionment in paragraph (a), the right to increase its beneficial consumptive use by 1,000,000 acre-feet per annum. Paragraph (c) provides, in substance, that if any water is allocated to Mexico by treaty or otherwise, such water shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b), and that if such surplus should prove insufficient, the deficiency shall be borne equally by the upper basin and the lower basin. Paragraph (f) provides for further equitable apportionment of the waters of the Colorado River system unapportioned by paragraphs (a), (b), and (c) at any time after October

1, 1963; if and when either basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b).

The compact further provides that the use of the river, for purpose of navigation, shall be subservient to uses for domestic, agricultural, and power purposes.

6. *The Boulder Canyon Project Act.*—The Boulder Canyon Project Act, approved December 21, 1928, expressly approves the Colorado River compact and provides that the terms of the act shall not become effective until the compact is ratified by the seven States or by six of the States, including California, with a waiver of the provision of the compact requiring ratification by all the signatory States. It also requires, as a condition to the act becoming effective, that California should agree, by act of its legislature, that the aggregate annual consumptive use of Colorado River water in California, including all uses under contracts made under the provisions of the Boulder Canyon Project Act, should not exceed 4,400,000 acre-feet of the waters apportioned to the lower basin States by paragraph (a) of article III of the compact, plus not more than one-half of any excess or surplus waters unapportioned by the compact. Subject to these provisions, the act provides for the construction of what is now known as Boulder Dam and the All-American Canal and a diversion dam.

The compact was ratified by six States, including California, and the California Legislature passed the act agreeing to the limitation of California uses as prescribed by the Boulder Canyon Project Act, and the act thereupon became effective. Subsequently, in 1944, Arizona ratified the compact.

7. *Developments in the United States under the Colorado River compact and the Boulder Canyon Project Act.*—Contracts for the generation and disposal of hydroelectric power to be generated at Boulder Dam, and contracts for the use within the lower basin of the waters to be impounded at Boulder Dam, were negotiated from time to time in conformity with the provisions of the Boulder Canyon Project Act. The contract with Nevada provided for the delivery to that State of 300,000 acre-feet per annum of these waters. The contract with Arizona, recently signed, calls for the delivery to Arizona of not to exceed 2,800,000 acre-feet per year of the 7,500,000 acre-feet apportioned to the lower basin by article III (a) of the compact, plus one-half of the excess or surplus waters available for use in the lower basin which are unapportioned by said compact. The contracts with the various California interests call for a maximum total delivery of 5,362,000 acre-feet per annum for use in California, subject to certain priorities of use. All these contracts are subject to the availability of water in the amounts, and for the purposes specified, under the Colorado River compact and the Boulder Canyon Project Act. These contracts are based, for the most part, upon proposed future developments which will not be completely realized for many years to come. The extent of present development will be noted more specifically in another paragraph of this statement.

Pursuant to the provisions of the act, Boulder Dam, the Imperial Diversion Dam, and the All-American Canal were constructed. Boulder Dam, with an original total capacity of about 31,000,000 acre-feet, was completed in 1935, and the Imperial Dam and the All-American Canal were completed and placed in operation early in 1942. As pointed out above, the construction of the All-American Canal now permits the delivery of water to California lands entirely through American territory, independent of the use of the Alamo Canal in Mexico.

B. Negotiations with Mexico and development of the present treaty.

Negotiations with Mexico over a division of the waters of the Colorado River have been carried on intermittently since early in this century. In 1924 the Congress passed an act authorizing the President to designate three special commissioners to cooperate with representatives of Mexico in a study regarding the equitable use of the waters of the Rio Grande below Fort Quitman, Tex. (Public Law 118, 68th Cong., 43 Stat. 118). Mexico was unwilling to discuss the Rio Grande unless at the same time the problem of the Colorado River was also discussed. Accordingly, by joint resolution approved March 3, 1927 (Public Res. No. 62, 69th Cong., 44 Stat. 1043), the scope of the investigation provided for by the act of May 13, 1924, was extended so as to include the Colorado River, and the resolution specifically provided that the purpose was to secure in formation on which to base a treaty with Mexico relative to the use of the waters of the two rivers. Permission was also granted to make a similar study of the Tijuana River, subject to Mexico's concurrence. Three commissioners were appointed by each country, and the Commission made an investigation of the three international streams, but was unable to reach an agreement.

With respect to the Colorado River, Mexico demanded an allocation of 3,600,000 acre-feet a year, whereas the offer of the American section was limited to an allocation to Mexico of 750,000 acre-feet per annum to be delivered according to schedule, and it was suggested that, in addition to this amount, the American section would be willing to add an additional amount to compensate for losses in the main canal. It was also pointed out that, in addition Mexico would receive certain return, drainage, and other excess flows from the United States.

The negotiations having failed, the American section of the International Water Commission was abolished by the act of June 30, 1932 (the Economy Act, 47 Stat. 417), and its powers, duties, and functions transferred to the American section of the International Boundary Commission, United States and Mexico.

From that time, developments in both countries proceeded steadily, particularly after the placing in operation of Boulder Dam, and it became increasingly apparent, in the light of the rapid Mexican developments, that some agreement should be reached between the two countries with regard to an allocation of the water supply. It was felt by most of the Basin States that the consummation of such a treaty was highly desirable in order to place some limit upon Mexico's expansion, which would in turn make developments in the United States more secure. Consequently, the Department of State renewed its investigations of the situation.

In the meanwhile, a Committee of Fourteen and Sixteen was formed, composed of two representatives from each of the basin States and two representatives of the power interests, and the Department of State carried on its studies in close cooperation with this committee. A series of meetings was held with this committee, culminating in a conference at Santa Fe, N. Mex., in April 1943, at which the so-called Santa Fe formula was adopted in a resolution of the committee.

This formula proposed, as a maximum, the allocation to Mexico each year of an amount of water equal to 10 percent of diversions for each such year from the Colorado River for agricultural and domestic use in the States of Arizona, California, and Nevada, to be distributed through the year as requested by Mexico and approved by the United States, and, in addition, any other water arriving at the boundary to be not less than 750,000 acre-feet in any year, with a maximum delivery of both categories of water up to 2,000,000 acre-feet in any year. It was estimated that, under conditions of ultimate development in the United States, the minimum deliveries of water to Mexico would be somewhat in excess of 1,500,000 acre-feet each year. The resolution made provision for an escape clause in cases of extraordinary drought, for a maximum rate of delivery of 5,000 cubic feet per second, and for the disclaimer by Mexico of any rights to the use of the waters of the Colorado River in excess of the allocations.

At the same meeting in Santa Fe, a statement of policy was adopted by the Committee of Fourteen and Sixteen. This statement called attention to the necessity of giving consideration to the use of various facilities in the United States for the delivery of water to Mexico, including the Imperial Dam, the Pilot Knob wasteway, and the All-American Canal from the Imperial Dam down to the Pilot Knob power site, and expressed the opinion that all of the facilities so used should be owned and controlled by the United States.

Various places of delivery were also suggested, including deliveries by way of the Pilot Knob wasteway, the Yuma main canal, the Rockwood heading of the Alamo canal, drainage works in the United States, and the Colorado River itself. Furthermore, the resolution stressed the importance of the channelization of the Colorado River in the international section and in Mexico, the construction and maintenance of adequate levee protection in the international section and in Mexico, the construction of flood control facilities on the Gila River, and the reregulation of the Colorado River by the Davis Dam and Reservoir.

Following this meeting, and on the basis of these resolutions, negotiations with Mexico were reopened and resulted in the present treaty. The terms of the treaty were formulated in conferences between American and Mexican representatives in El Paso, Tex., and Ciudad Juárez, Chihuahua, Mexico, which proceeded with only brief interruptions from the early part of September to the latter part of December 1943. These conferences were participated in by representatives of the Department of State of the United States, of the Ministry of Foreign Relations of Mexico, and of both sections of the International Boundary Commission, United States and Mexico. The treaty was signed in Washington on February 3, 1944.

C. Brief analysis of treaty provisions relating to the Colorado River.

The treaty allocates to Mexico a minimum quantity of 1,500,000 acre-feet each year to be delivered in accordance with schedules to be furnished annually in advance by the Mexican section of the Commission. By virtue of an escape clause, however, this allocation is subject to diminution in times of drought or in case of accident to the irrigation system in the United States, in the same proportion as consumptive uses in the United States are curtailed. Beyond this minimum quantity the United States will deliver to Mexico, whenever the United States section decides there is a surplus of water over and above the amount necessary to supply all uses in the United States and Mexico's guaranteed minimum quantity, an additional quantity up to a total, including the 1,500,000 acre-feet, of not more than 1,700,000 acre-feet each year. Mexico may use any other waters that arrive at her points of diversion but can acquire no right to any quantity beyond the 1,500,000 acre-feet. These quantities, which may be made up of any waters of the Colorado River from any and all sources, whether direct river flows, return flow, or seepage, will be delivered by the United States in the boundary portion of the Colorado River, except that until 1980 Mexico may receive 500,000 acre-feet annually and thereafter 375,000 acre-feet annually through the All-American Canal as part of the guaranteed quantity.

Mexico is to build a main diversion structure in the bed of the Colorado River at some point below the upper boundary in order to avail herself of the river flows. If this structure is located entirely in Mexico, the United States will undertake, at Mexico's request, to deliver up to 25,000 acre-feet out of the total allocation at the Sonora land boundary near San Luis. Additional quantities may be delivered at this point by mutual agreement. This water will be made up mainly, if not entirely, from drain and surplus waters of the Yuma project and of the first unit of the Gila project in the United States. It is contemplated that the balance of any such waters not so used will be pumped into the river and there delivered to Mexico.

If Mexico's main diversion structure is located in the limitrophe section of the river, its location, design, and construction are subject to the approval of the Commission, which will thereafter maintain and operate the structure at Mexico's expense. Regardless of where this structure is located, there shall be constructed at the same time, at Mexico's expense, the works which in the opinion of the Commission may be necessary to protect lands in the United States against damage from floods and seepage which might result from the construction, operation, and maintenance of this dam.

The United States obligates itself to construct the Davis Dam, a part of the capacity of which is necessary to make possible the regulation at the boundary of the water allotted to Mexico. The construction of this dam by the Bureau of Reclamation had already been authorized by the Congress. Construction of the dam was planned primarily for the purpose of reregulating waters released at the Boulder Dam for power generation purposes, but one of the reasons assigned for its construction was its usefulness in regulating the deliveries of water to Mexico which might be provided for in any future treaty.

In keeping with the provisions of the Santa Fe formula, provision is made by the treaty for the acquisition or retention by the United States of title to, and control over, all facilities within the United States necessary for the delivery of waters to Mexico, but Mexico is required to pay an equitable part of the construction, maintenance, and operating costs of Imperial Dam and the Imperial Dam-Pilot Knob section of the All-American Canal, and is to pay all of such costs of works used solely for the delivery of waters allocated to Mexico.

Mexico is to deliver to the United States section annually in advance, schedules of water delivery to conform to her current pattern of use, the schedules to apply separately to deliveries through the All-American Canal and to deliveries in the bed of the river. These schedules are subject to certain fixed limitations, especially in regard to minimum rates of flow at different times of the year, in order to provide assurance that the United States, in the period of ultimate development, will obtain credit for practically all the return and drainage flows and other excess flows originating in the United States and which are expected to occur in the river as a result of United States uses and operations. Mexico is permitted to vary these schedules from time to time within the year within certain limitations, as circumstances require, but always subject to the limitations as to total amounts and rates of delivery prescribed by the treaty. Provision is made for the establishment and operation of gaging stations on the river and on other carrying facilities used for the delivery of water to Mexico, in order to keep a record of the waters delivered to Mexico and of the flows of the river.

Provision is also made for a study of the flood-control problem on the Colorado River below Imperial Dam, both in the United States and Mexico, the two countries agreeing to construct such flood-control works as may be recommended as a result of this study and which may be approved by the two Governments. There is thus no absolute obligation on the United States to construct any particular flood-control works. The importance of extending this study to that portion of the river in Mexico lies in the fact that, because of topographical conditions, it is possible for the river in times of flood to escape from its bed in Mexico and flow through the Imperial Valley into the Salton Sea. As pointed out in an earlier paragraph, this actually happened in the early part of the century, and it took many months of work and the expenditure of large sums of money to restore the river to its former channel.

The provisions regarding the deliveries of water to Mexico are not to become effective until the Davis Dam and the Mexican main diversion structure are completed, or for a maximum period of 5 years. Until these provisions become effective, permission is given to Mexico to construct and operate, at its expense, a temporary diversion structure in the bed of the Colorado River within the United States for the purpose of diverting water into the Alamo Canal, the plans for the structure, and the construction and operation thereof, to be subject to the approval of the United States section. During this period of time the United States will make available in the river at such diversion structure, river flow not currently required in the United States, and undertakes to cooperate with Mexico to the end that she may satisfy her irrigation requirements, within the limits of those requirements, for lands irrigated in Mexico from the Colorado River during the year 1943.

It will thus be seen that the treaty provisions are within the limitations, and conform to the ideas expressed in the Santa Fe formula and, in some respects, are preferable. The amounts guaranteed to Mexico are less than those which would probably be required under the Santa Fe formula. The limitation on maximum deliveries is 300,000 acre-feet less per year than that approved by the Committee of Fourteen and Sixteen.

The provisions of the formula advocating an escape clause and a provision requiring Mexico to surrender any claims to the use of the waters of the Colorado River in excess of the allocations are substantially embodied in the treaty. Provision was likewise made, in conformity with the statement of policy of the committee, for the ownership and control by the United States of all facilities required for the delivery of Mexican waters, and the provisions relating to the use of the All-American Canal and the construction of flood-control facilities in both countries are reflected in the treaty provisions. The use of return and drainage flows and other surplus flows originating in the United States is also safeguarded. The amount of water guaranteed to Mexico is less than the amount which Mexico actually used in 1943, which is estimated as being in excess of 1,800,000 acre-feet. Furthermore, the allocation does not compare unfavorably with that proposed by the American section of the International Water Commission in 1929. As already pointed out, that offer was of a quantity of 750,000 acre-feet a year to be delivered according to schedule, and there was proposed to be added an additional amount to compensate for losses in the main canal. These losses, which presumably would include those occasioned by the necessity for sluicing at the canal heading, would represent a very substantial figure—perhaps in the neighborhood of 250,000 acre-feet per year. Since the offer apparently contemplated deliveries in the Alamo Canal, it was apparent that, from an engineering standpoint, not all of the flow of the stream could be diverted but a substantial quantity must be permitted to run down the river. It is the opinion of competent engineers that this would entail the use of a gross quantity of water substantially in excess of 1,000,000 acre-feet per year. It is also believed that after full development in the lower basin in the United States, more than half of Mexico's allocation under the present treaty will then be comprised of return flow. Thus, the United States will receive credit for over one-half of Mexico's allocation, without any use of primary water. The balance remaining represents less than 5 percent and, under certain conditions of development in the United States, less than 3 percent of the average annual run-off of the Colorado River Basin.

And finally, based upon the precedents afforded by similar treaties, the provisions of the present treaty are favorable to the United States. In all these precedents existing uses were recognized and protected as a minimum, and frequently provision was made for expansion in the lower riparian state. Con-

siderable advantage will likewise result from the fact that the treaty, by fixing for all time the amount of water to which Mexico is entitled, will enable development in the United States to proceed free from all doubts and fears resulting from the present unsettled status of Mexican rights, fears that were increasing as Mexican uses expanded.

II. LOWER RIO GRANDE

A. Description of drainage area.

1. *General description of drainage area.*—The Rio Grande rises in southern Colorado and flows in a southerly direction through United States territory until it reaches El Paso, Tex., where it becomes the boundary stream between the United States and Mexico for about 1,200 miles. Near Fort Quitman, Tex., about 80 miles below El Paso, the river flows through a canyon section, which forms the division point between the Upper and Lower Basin. Allocation of the waters of the Rio Grande between the United States and Mexico, in the section between El Paso and Fort Quitman, was effected by the treaty of 1906, and the present treaty relates only to the river below Fort Quitman.

From Fort Quitman to Devils River, a distance of 600 river miles, the river flows through a mountainous country, for a great distance in canyons. The irrigable areas in this section are comparatively small, and are now largely irrigated. There are several favorable sites for storage dams in this section of the river, with opportunities for hydroelectric development.

From Devils River to Roma, Tex., a distance of some 300 miles, the river is in a hilly section, with large areas of irrigable lands. In this section, also, there are apparently advantageous reservoir sites. The lower Rio Grande Valley extends from Roma, Tex., to the Gulf, a distance of some 250 river miles, which is about twice the length of a direct line between these points. There are in this area approximately 2,000,000 acres of agricultural lands about equally divided between the United States and Mexico. The climate is semitropical. The area at present supports a population of approximately 225,000 in the United States.

2. *Water supply.*—The principal water supply of the Rio Grande below Fort Quitman is derived from flood run-off following storms in various parts of the watershed, this run-off occurring principally during the months from May to September. Very little of the supply is derived from melting snows, as in the case of the upper Rio Grande watershed and in the watershed of the Colorado River.

Irrigation development and use above Fort Quitman practically consumes the entire flow above that point. The small quantity reaching Fort Quitman is composed principally of return flow, supplemented infrequently by storm run-off and, at rare intervals, by spill from Elephant Butte Reservoir.

About 70% of the supply comes from Mexico tributaries, the principal ones being the Rio Conchos near Presidio, Tex., the Rio Salado between Laredo and Roma, Tex., and the Rio San Juan below Roma. About 30 percent of the supply originates in the United States, the principal tributaries being the Pecos and Devils Rivers, both of which enter the main stream a short distance above Del Rio, Tex.

The historical flow at the lower end of the Presidio Valley just below the mouth of the Rio Conchos has averaged about 1,600,000 acre-feet a year since 1900. Contributions below this point have increased the annual average flow to about 4,600,000 acre-feet at the lowest practicable dam site on the Rio Grande near Salineño. Almost 4,000,000 acre-feet of this supply has wasted annually into the Gulf of Mexico, largely because of the lack of storage facilities on the stream which would permit the conservation and beneficial use of flood flows. Under future use, considering full development upstream in both the United States and Mexico, it is estimated that the average annual flow into the international reservoirs will be reduced to about 3,400,000 acre-feet. If proposed storage dams are built on the main stream under treaty provisions, it is estimated that the usable supply will be further depleted to the extent of approximately 800,000 acre-feet as a result of evaporation losses and uncontrolled spills from the reservoirs.

Floods are of frequent occurrence on the Rio Grande, as the entire watershed is subject to intense tropical storms. Most frequent are those originating in the drainage area of the Rio Conchos, but the greatest, in volume of discharge, have

been those originating above the uplift caused by the Balcones escarpment, which approaches the river near Del Rio, Tex.

The greatest flood of record, in point of maximum discharge, occurred in September 1932, originating mostly in the drainage area of the Devils River, when the peak discharge at Del Rio exceeded 600,000 cubic feet per second, causing extensive damage at all points downstream. Of nearly equal magnitude was the flood of May 1922, which originated in the tributaries near Langtry, Tex., and which likewise caused extreme damage in the river areas below.

Flood flows have alternated with periods of extreme shortage, thus restricting irrigation development in both countries. These shortages have become more critical in recent years as a result of increased developments on the tributaries in Mexico, thus threatening the existence of present developments in the United States.

3. Irrigation development.—Irrigation in the Rio Grande watershed below Fort Quitman probably started on the Mexican side near Ojinaga about 1880. Development started in the Presidio Valley in the United States about a decade later.

At the beginning of the century more than 100,000 acres were being irrigated in Mexico, practically all of which were along the tributaries rather than the main stream. Development in the United States had advanced only slightly at this time. Following the completion of the Missouri-Pacific Railroad to Brownsville in 1904, there was a rapid expansion in the lower valley in the United States, reaching approximately 400,000 acres by 1940. Upstream development, exclusive of that on the Pecos River, which has long since reached the probable maximum for that stream, lagged far behind in the United States, where only about 40,000 acres were irrigated by 1940, as compared with the total development in Mexico, principally on the three main tributaries, of more than half a million acres in 1940. The maximum utilization of the waters of the Rio Grande, as a result of conservation and regulation by main stream storage, will permit of expansion of irrigated acreage, mostly in the lower Rio Grande Valley, of almost double the present irrigated acreage.

4. Negotiations with Mexico.—During the first two decades of this century, the problem of water supply for the areas on the Rio Grande below Fort Quitman received the attention of the two Governments on several occasions and was the object of study by joint Commissions, but without definite results, as has previously been noted. The act of May 13, 1924, authorized the appointment of Commissioners to cooperate with Mexican representatives in a study regarding the equitable use of these waters, but, since Mexico was unwilling to discuss the problems of the Rio Grande separately from those of the Colorado River, the Commission was not formed until after the adoption of the joint resolution of March 3, 1927, which authorized a joint study of the water problems on all three of the international streams. Having failed to reach an agreement, negotiations ceased for a time and the International Water Commission was abolished. The history of later negotiations, culminating in the present treaty, has been outlined in the statement with respect to the Colorado River.

5. Brief analysis of the treaty provisions relating to the Rio Grande.—The treaty allocates to the United States all of the waters contributed to the main stream by the principal United States tributaries below Fort Quitman, including the Pecos and Devils Rivers; one-third of the contributions to the main stream from the principal Mexican tributaries above Salineño, Tex., which Mexico guarantees to be not less than 350,000 acre-feet per year; and one-half of all other flows in the Rio Grande, except those of the San Juan and Alamo Rivers, which empty into the Rio Grande below the lowest feasible reservoir site.

To Mexico is allocated all of the contributions to the main stream from the San Juan and Alamo Rivers; two-thirds of the contributions from the principal Mexican tributaries above Salineño, Tex., subject to the guaranty to the United States of the minimum of 350,000 acre-feet per year from these sources; and one-half of all other flows occurring in the main channel of the Rio Grande.

As has been pointed out, approximately two-thirds of the water of the Rio Grande below Fort Quitman represents contributions from Mexican tributaries. Nevertheless, the effect of the treaty is to guarantee to the United States the use of about one-half of all the water of the river, and about 60 percent of all such water which can be impounded in reservoirs on the main stream. Under future depletions upstream, it is expected that the total average stream flow into the reservoirs will be about 3,400,000 acre-feet, of which approximately 2,000,000 acre-feet will belong to the United States. It is estimated that the conservation of water in the reservoirs to be constructed on the Rio Grande

will make possible the irrigation of about 400,000 additional acres in the United States, or an estimated total, including the lands now irrigated, of about 900,000 acres.

The treaty provides for the construction on the Rio Grande of three major international storage dams between the Big Bend and the head of the Lower Valley to provide capacity for water storage, for flood control, and for the retention of silt. The water problems of the Lower Rio Grande Valley have largely been due to the absence of the regulation that could only be provided by main stream storage, which was impossible without an international agreement. As a result, an average of almost 4,000,000 acre-feet of water a year has wasted into the Gulf.

The treaty also makes provision for diversion works and other structures on the Rio Grande, and for a study of the flood-control problem, the two Governments agreeing to construct such works as may be recommended as a result of these studies, subject to the approval of the two Governments. These works may include levees, floodways, and grade-control structures and the rectification of portions of the river. The cost of construction, operation, and maintenance of the international storage dams is to be apportioned between the two countries in proportion to the capacity allotted to each country in the storage reservoirs, which is to be based upon each country's needs. The costs of other works, except those for the generation of power, are to be prorated in proportion to the benefits which the respective countries receive therefrom.

Provision is also made for the development of hydroelectric power at the international storage dams, the costs and the power to be derived therefrom to be divided equally between the two Governments. It is expected that revenues from the sale of this power will amortize the costs of the power plants, pay for their operation and maintenance, and amortize a part of the cost of the storage dams. Certain regulations are provided for the operation of the joint works so as to insure the maximum beneficial use of the waters of the river. It should be noted, however, that the United States section, not the Commission, is to pass upon the location of the diversion works for use in the United States and the quantities of water to be diverted for use within the United States, subject, of course, to the allocations. The distribution and use of these waters within the United States is within the jurisdiction of the appropriate authorities of the State, or of other Federal agencies, such as the Bureau of Reclamation, which may have irrigation projects within the State.

III. TIJUANA RIVER

The Tijuana River proper is about 17 miles long, entering the United States from Mexico near Tijuana, Lower California, and emptying into the Pacific Ocean about 2 miles north of the international boundary line. It is made up of a number of comparatively short tributaries flowing from both countries. The flow of the stream is very irregular and its utilization will require large carry-over reservoirs. Mexico has constructed the Rodriguez Dam which creates a reservoir on the Rio Las Palmas, a Mexican tributary. Several reservoirs have been established on the tributaries north of the boundary line, and investigations indicate that a practical site for an additional reservoir exists at Marron, on the international boundary line, where the dam would be located in both countries.

The treaty makes provision for investigation of the problems of the Tijuana River, including flood control and the equitable distribution of its waters. The developments, which will probably include the construction of a dam at the Marron site, will make available an amount of water for use in both countries in excess of 12,000 acre-feet annually. After taking care of existing uses, the remaining part of the United States' share of this water could be used by the city of San Diego as a part of its domestic water supply, or could be used for the irrigation of areas adjacent to that city.

IV. BRIEF ANALYSIS OF GENERAL PROVISIONS OF THE TREATY

The administration of the treaty is entrusted to the International Boundary Commission, organized under the Convention of March 1, 1889, between the United States and Mexico, the name of the Commission being changed to International Boundary and Water Commission.

The general powers and functions of the Commission outlined in the treaty serve, for the most part, to clarify powers and functions which already exist in fact. There is no encroachment on the jurisdiction of other Federal agencies, the intention being merely to centralize in the Commission, and its respective

sections, jurisdiction over all matters relating to the administration of the provisions of this and related boundary treaties and matters affecting the international boundary and boundary waters. The discharge of various functions imposed by the provisions of the treaty can in fact be handled by other Federal agencies, but all dealings between the two countries concerning boundary and international water matters are funneled through the Commission, subject always to the control, on matters of policy, of the respective foreign relations departments.

The treaty also contains provisions of a general nature relating to the uses of the river channels and of the surfaces of artificial international lakes, and to the international works.

The two Governments undertake to acquire all private property necessary for the construction, operation, and maintenance of the works, and to retain, through their respective sections, ownership and jurisdiction, each in its own territory, of all works, appurtenances, and other property required for the carrying out of the treaty provisions regarding the three rivers. The jurisdiction of each section of the Commission is definitely restricted to the territory of its own country.

These general provisions, which in some respects relate to the administration of all the boundary and water treaties between the United States and Mexico, supply certain omissions and correct certain defects in the earlier treaties, omissions and defects which in the past have been sources of embarrassment to the two countries.

OUTLINE AND ANALYSIS OF TREATY ARTICLES

I. PRELIMINARY PROVISIONS

Article 1. Definition of terms

This article defines certain terms which are used in the treaty.

Article 2. The Commission and its jurisdiction

This article prescribes the general powers and functions of the International Boundary and Water Commission. The general administration of the treaty is entrusted to the International Boundary Commission, organized under the convention of March 1, 1889, between the United States and Mexico, the name of the Commission being changed to International Boundary and Water Commission.

The Commission is given the status of an international body, consisting of a United States section and a Mexican section, and it is provided that each Government shall extend certain diplomatic privileges and immunities to the Commissioner and certain of the other officers of the section of the other Government.

This article specifies the Department of State of the United States and the Ministry of Foreign Relations of Mexico as the agencies to represent the two Governments in every case where action by the two Governments is required.

The jurisdiction of the Commission is defined as extending to the limitrophe parts of the Rio Grande and the Colorado River, to the land boundary and to works located thereon, each section retaining jurisdiction over that part of the works located within the jurisdiction of its own country. Thus, neither section exercises any extraterritorial jurisdiction.

The provisions of this article serve more to clarify and recognize a status already existing than they do to create new authority in the Commission. By the convention of 1889, which created the Commission, matters affecting either the land or water boundary were placed within its jurisdiction. The scope of this authority was extended by the convention of March 20, 1905, providing for the elimination of bancos from the effects of the boundary treaty of November 12, 1884.

The provisions of the convention of May 21, 1906, providing for the equitable division of the waters of the Rio Grande above Fort Quitman, are administered by the American section of the Commission in cooperation with the Bureau of Reclamation, which has under its jurisdiction the Elephant Butte Dam and Reservoir which stores the waters of the Rio Grande for later uniform delivery both to United States lands and to Mexico under the provisions of that convention.

Under the provisions of the convention of February 1, 1933 the Commission rectified the channel of the Rio Grande between El Paso-Juarez and Box Canyon in the vicinity of Fort Quitman, Tex., and this project is now being operated and maintained by the Commission. Complementary to this project, the American

section of the Commission constructed, and is now operating, the Rio Grande canalization project between Caballo Dam and El Paso, together with the American Dam, which is used to meter out Mexico's water under the convention of 1906.

By virtue of the provisions of the act of June 30, 1932 (the Economy Act, 47 Stat. 417), the International Water Commission, formed under the act of May 13, 1924 (43 Stat. 118), was abolished and its powers, duties, and functions were transferred to the American section of the International Boundary Commission.

The Commission is an engineering organization, both of the Commissioners being engineers of long experience, and the two sections employ staffs of experienced and competent civil and hydraulic engineers and surveyors. This has always been true in the case of the Mexican section, and in the case of the American section this situation has prevailed since 1927. The nature of the duties assigned to the Commission require that the Commissioners be skilled in engineering matters, and this is recognized in article 2.

The United States section has always been guided in matters of policy by its Department of State, and here again this situation is recognized, confirmed, and clarified by article 2.

Obviously, it would lead to great confusion and loss of efficiency if one Government had to deal with various agencies of the other in matters affecting boundary and boundary waters. This has been a source of some embarrassment in the past, where there was overlapping jurisdiction among various Mexican agencies concerning boundary and water problems. The purpose of article 2, and other articles of the treaty hereafter to be noted bearing on the functions and jurisdiction of the International Boundary and Water Commission, is to provide a central agency through which all such matters can be cleared and which would also serve to coordinate the activities of other agencies which might be engaged in the discharge of functions relating to boundary matters.

The purpose of the provision extending diplomatic immunity to certain officials of the two sections is apparent from a consideration of the nature of their duties, which require that they be permitted to pass freely between the two countries. This status already exists in fact in Mexico. The establishment of a similar status in the United States, although considered desirable, was without the scope of the present United States statutes relating to diplomatic immunity. The provisions of this article will remedy the situation, as far as the International Boundary and Water Commission is concerned, without the necessity of making a general, and perhaps undesirably far-reaching, amendment of the statutes.

Article 3. Preference of uses

This article prescribes a certain order of preferences to serve as a guide to the Commission in matters in which it may be called upon to make provision for the joint use of international waters. Since the only joint uses mentioned in the treaty are the generation of power at the international plants on the Rio Grande and the joint civilian use of the surface of artificial lakes formed by international dams on the Rio Grande, the article is of very limited scope and application. The provision relating to the solution of border sanitation problems, however, is important.

II. RIO GRANDE (RIO BRAVO)

Article 4. Allocations

This article allocates the waters of the Rio Grande below Fort Quitman between the two countries. The equitable distribution of the waters above Fort Quitman was provided for in the convention of May 21, 1906, allocating to Mexico 60,000 acre-feet of water from the Rio Grande at Ciudad Juárez, and the provisions of that convention are unaffected by the provisions of the present treaty, which is limited in its application to the Rio Grande below Fort Quitman.

Under the provisions of article 4 the United States is allotted all the contributions to the main stream from its principal tributaries, including the Pecos and Devils Rivers; one-third of the contributions to the main stream from the principal Mexican tributaries above Salineño, Tex., which Mexico guarantees shall not be less than an average of 350,000 acre-feet a year; and one-half of all other flows in the river except those contributed by the San Juan and Alamo Rivers in Mexico.

Mexico is allotted all of the waters of the San Juan and Alamo Rivers, which empty into the main stream below the lowest feasible reservoir site on the Rio Grande; two-thirds of the contributions from her principal tributaries above the San Juan and Alamo Rivers, subject, however, to the guaranty to the United States of 350,000 acre-feet annually from these tributaries; and one-half of all other flows in the main stream below Fort Quitman.

The effect of this provision is to divide the waters of the Rio Grande below Fort Quitman about equally between the two countries, although approximately two-thirds of these waters originate in Mexico. Furthermore, of the waters which can be impounded on the main stream—that is to say, those above the lowest feasible dam site in the vicinity of Salineño, Tex.—approximately 60 percent are allotted to the United States and 40 percent to Mexico. Under expected future depletions upstream, it is expected that the total average stream flow above the lowest major reservoir will be about 3,400,000 acre-feet, of which approximately 2,000,000 acre-feet will belong to the United States and the remainder to Mexico. The storage of this water will make possible the irrigation of about 400,000 additional acres in the United States, or an estimated total, including the lands now irrigated, of about 900,000 acres.

It is worthy of note that the escape clause requires that any deficiencies in the annual delivery of 350,000 acre-feet a year from the Mexican tributaries in any 5-year cycle shall be made up from waters of those tributaries in the succeeding 5-year cycle. Since this water, together with other waters allotted to the United States, will be stored in the international reservoirs, it is apparent that full delivery of the minimum guaranty of 350,000 acre-feet is practically assured, and that such waters can generally be carried over from periods of plenty to periods of drought. The United States can make any desired development on its tributary streams, since all the waters of its measured tributaries form a part of the allocation to the United States and since any use of waters on its other tributaries is permitted subject to the charging of the water so used against the United States' share of the waters of the river.

Article 5. Construction of dams and diversion works

This article provides for the joint construction on the Rio Grande below Fort Quitman of the dams required for the storage and regulation of the waters of the river, and for necessary diversion dams.

The construction of three major storage dams within certain reaches of the river is stipulated, but one or more of the stipulated dams may be omitted and others than those enumerated may be built, as determined by the Commission, subject to the approval of the two Governments.

Cooperative investigations of possible dam sites have been carried on by both Sections of the International Boundary Commission for some time, and it was as a result of these investigations that the three general locations were specified in the treaty. It has been determined fairly definitely that there exist in each of these general locations favorable sites for the location of dams and the incidental development of power.

This article provides that the costs of the construction, operation and maintenance of the major storage dams shall be divided between the two countries in proportion to the capacity allotted to each country for conservation purposes in the reservoirs at such dams, such allotment to be based on each country's needs. The costs of the diversion works are to be prorated between the two countries in proportion to the benefits received by each.

It is estimated that the costs to the United States of the storage dams and diversion works thus provided for will be in the neighborhood of \$55,500,000. Part of these costs may be recouped from the sale of power to be generated at the storage dams, a subject which will be discussed under another article.

Developments along the main stream in the United States have about reached the limit which can be supplied from the uncontrolled waters of the river, and this supply is uncertain and at times inadequate. It is obvious from the fact that an average of almost 4,000,000 acre-feet of water a year is annually wasted into the Gulf of Mexico, that the most satisfactory solution of this problem, with provision for future expansion, lies in the construction of storage works on the main stream.

The construction of such works is impossible without an international agreement, not only because the works would lie within the territorial jurisdiction of both nations, but also because the navigation clauses of the treaties of February 2, 1848, and December 3, 1853, forbid any such construction, except by mutual consent.

A partial solution of the problem, as far as the United States is concerned, was worked out in the plans for the Valley gravity and storage project (Federal project No. 5), for the construction of which an initial appropriation was made in 1941 (Public Law 136, 77th Cong., 1st sess.). This project contemplates the protection and enlargement of the water supply of the Lower Rio Grande Valley by means of off-river storage, a gravity diversion canal heading in the Rio Grande near Zapata, Tex., and a system of feeder and distribution canals, the total cost being estimated in 1940 as more than \$60,000,000. Ultimately it was planned to build storage reservoirs on the Devils River, a tributary of the Rio Grande.

Since this project required no structures in the main stream, it could be constructed independently of agreement with Mexico. The advantage of the treaty provisions, however, lies in the fact that the international reservoirs will provide better and larger amounts of storage than were provided in project No. 5, at the same time providing flood protection and better diversion facilities. It would still be desirable to retain the gravity canal feature of project No. 5, since this will permit a much greater beneficial use of the impounded waters than the present wasteful system of pumping from the river. However, the treaty provisions will eliminate the necessity for the main storage and power production features of project No. 5, and the canal portions of the project above Roma can likewise be eliminated, resulting in a saving of at least \$30,000,000.

Article 6. Flood-control works

This article provides for an investigation and the preparation of plans for flood-control works when and where needed on the Rio Grande below Fort Quitman, which works may include levees, floodways, grade-control structures, and works for the canalization or rectification of some reaches of the river, thus justifiably anticipating the works which may be necessary due to the changes that will be brought about in the regimen of the stream by the construction of the storage dams, which dams will retain the silts and lessen the flood flows of the stream. There is no obligation to construct any of such works, since the plans, in any case, are subject to the approval of the two Governments. The article provides for the division between the two sections of such construction work as may be agreed upon, which is in lieu of an allocation of costs as such.

The Commission has already had experience in the construction and operation of flood-control works in carrying out the provisions of the Rectification Convention of February 1, 1933, this work consisting largely of river straightening, the building of levees to provide a floodway, and the construction of grade-control structures. The importance of the provision for flood-control works is obvious, in the light of the history of flood flows, with resulting damage, in the past.

The greatest flood from the Rio Grande watershed was that of September 1932, which reached a discharge in excess of 600,000 second-feet at Del Rio and surpassed all previous records of flow at most stations downstream. However, the flood of May 1922 also approached this magnitude and likewise resulted in serious damages all the way to the Gulf. Such floods result from tropical hurricanes, which originate in the Gulf of Mexico, and which are generally limited to the summer months, while the production of irrigated crops is under way. Consequently, damages are high and some relief must be afforded before full development can take place.

Article 7. Generation of electrical energy

This article provides for an investigation and the preparation of plans for hydroelectric works at the international storage dams on the Rio Grande. Here again there is no absolute obligation for the construction of such works, since they must be approved in advance by the two Governments. The provision is an important one, however, because the construction of the storage dams at the two upper locations prescribed in article 5 will in all probability furnish opportunities for the profitable generation of electrical energy.

Preliminary estimates indicate that power plants in connection with the two upper reservoirs will be capable of producing a firm energy of about 330,000,000 kilowatt-hours annually, with some additional secondary power. At a value of 2.7 mills at the switchboard, the firm power would have a value of about \$900,000 annually. This should pay the costs of the construction, operation, and maintenance of the power plants and partly amortize the cost of the dams. The

generation of this power should aid materially in the industrial development of regions in the neighborhood of the river.

Article 7 provides that the costs of construction, operation, and maintenance of the power plants and the energy thus generated shall be divided equally between the two countries.

Article 8. Reservoir operations

This article provides for the formulation by the Commission, subject to the approval of the two Governments, of rules and regulations governing the operation of the international reservoirs. It sets up certain general rules governing this operation until they are superseded or modified by the Commission, with the approval of the two Governments. These rules are based upon practical experience in the operation of storage reservoirs and are intended to assure the maximum beneficial use of the impounded waters.

A system of accounting of the ownership of waters in the reservoirs and of inflows, spills, reservoir losses, and releases is provided for. It permits either country to avail itself at any time of its waters impounded in the reservoirs, provided only that the water so taken is for direct beneficial use or for storage in other reservoirs.

Article 9. Uses and diversions of water

This article permits the use by either country of the river channel to convey water belonging to it, and the diversion of such water wherever desired, and the construction of works for this purpose. With the consent of the Commission, diversions by one country of water belonging to the other is permitted where such water can be replaced at another point on the stream or where it can be used without any impairment of the rights of the other country, as for the generation of hydroelectric power.

The Commission is required to maintain a system of accounting for all water so diverted or used, and provision is made for the construction, operation, and maintenance of all gaging stations and other mechanical apparatus necessary for this purpose.

It is worthy of note that each section of the Commission, independently of the other, has jurisdiction over the diversion of water for use in its own country, subject, of course, to the availability of such water within that country's allotment. The effect of this is that neither section exercises any control or jurisdiction over uses in the country of the other section. It does not mean, however, that the two sections, either jointly or separately, are vested with any jurisdiction over the use of water within the two countries, except to the extent of determining that water is available within the country's allotment for any such use. Thus, in the case of the United States section, the treaty provisions have no effect upon established water rights under Texas law, except in most cases to furnish added security to these rights by the furnishing of a more adequate and dependable supply. The distribution of the waters within the State would be under the control of the appropriate State agencies or, where Federal projects exist within the State, of the appropriate Federal agencies. The Commission would have supervisory jurisdiction and control over diversion structures across the river, and the American section would have supervisory jurisdiction and control over diversions from the river for use in the United States. All of these diversion works, however, would be located at points where they could serve the areas designated by State authorities, or other appropriate agencies, as being entitled to the use of waters of the Rio Grande, and distribution of the water so diverted would be within the jurisdiction of those agencies.

III. COLORADO RIVER

Article 10. Allotment to Mexico

In this article the United States guarantees to Mexico an annual quantity of 1,500,000 acre-feet of the waters of the Colorado River from any and all sources, to be delivered in accordance with schedules to be furnished in advance of each irrigation year by the Mexican section of the Commission. Beyond this minimum quantity, the United States will deliver to Mexico, whenever the United States section decides there is a surplus of water, an additional quantity up to a total, including the 1,500,000 acre-feet, of not more than 1,700,000 acre-feet per year

Mexico may use any other waters that arrive at her points of diversion but can acquire no right to any quantity in excess of 1,500,000 acre-feet. In case of extraordinary drought, or serious accident to the irrigation system in the United States, deliveries to Mexico will be reduced in the same proportion as consumptive uses in the United States are reduced.

With respect to the quantity of water allotted to Mexico, the following observations may be made:

(a) The minimum guarantee of 1,500,000 acre-feet per year is less than the amount used by Mexico in 1943, which is estimated as being in excess of 1,800,000 acre-feet. It must be borne in mind that in all the precedents afforded by water treaties between various nations, existing uses in both the upper and lower riparian States were recognized and protected and provision made in most cases for expansion. In the Nile agreement between Great Britain and Egypt of May 4, 1929, for instance, the effect of the agreement was to recognize and perpetuate existing uses in the Sudan and in Egypt, and beyond that to permit the expansion of uses in Egypt by subordinating the interests of the Sudan to those of Egypt as regards future development. The two principal treaties involving the United States are the convention of May 21, 1906, between the United States and Mexico, allotting the waters of the Rio Grande above Fort Quitman, and the comprehensive waterways treaty between the United States and Great Britain of January 11, 1909. In the former, there was allotted to Mexico 60,000 acre-feet of water per year, which was estimated to be the maximum quantity that had ever been previously used by Mexico in the Rio Grande Valley above Fort Quitman, thus recognizing the existing uses at the time the treaty was negotiated. The treaty of January 11, 1909, with Great Britain recognized already existing uses of the waters of the international streams and, with respect to the Milk and St. Mary Rivers, divided the waters of these two streams equally between the two countries. The effect of this division was to protect all uses existing at the time the treaty was signed. The criterion in all these cases was uses existing at the time of the negotiation of the treaty, and not some earlier date.

In the case of the present treaty, the amount allotted to Mexico, far from permitting any expansion in that country, is insufficient to cover even her present uses. On the other hand, the water available to the United States, which is estimated as being in excess of 16,000,000 acre-feet, permits of the development of practically all the uses presently contemplated for decades to come, if not forever.

(b) It has been contended that Mexico is entitled only to the maximum amount of water which she put to beneficial use, or could have put to beneficial use, under natural conditions of stream flow on the Colorado River; that is, prior to the placing in operation of Boulder Dam in 1935. Two difficulties are inherent in this proposition. In the first place, regardless of how reasonable it may seem, there is no precedent for such a limitation of use. In the second place, opinions differ as to the amount of water which Mexico might have beneficially used under natural stream conditions. Mexico contends that her uses prior to 1935 were limited more by economic factors than by any physical difficulty in utilizing the stream flow. Under the contract between California interests and the Mexican Government permitting the use of the Alamo Canal through Mexican territory for delivery of water to California lands, Mexico was entitled to the use of half of the flow of the Alamo Canal. For the 10-year period prior to the placing in operation of Boulder Dam, there was an average diversion through the Alamo Canal in excess of 3,000,000 acre-feet per year. The greatest diversion in any one year, prior to 1935, was 3,423,511 acre-feet in 1929. Thus, if Mexican lands had been developed and if Mexico had exercised her right to half of this flow, she would have used an average of more than 1,500,000 acre-feet per year, and a maximum of 1,711,755 acre-feet.

(c) It is estimated that, under ultimate conditions of development in the United States, more than half of Mexico's allocation will consist of return and drainage flow and other waste waters originating in the United States. Thus, Mexico is not assured under the treaty of as much primary water as she had actually used under natural conditions; that is, prior to the construction of Boulder Dam, estimated as being in excess of 900,000 acre-feet, and much less than she could probably have put to beneficial use under natural conditions of stream flow.

(d) The offer of the United States section of the Water Commission in 1929 was 750,000 acre-feet a year, to be delivered according to schedule, and there was proposed to be added an additional amount to compensate for losses in the main canal. It was pointed out that in addition Mexico would receive certain

return, drainage, and other excess flow from the United States. As pointed out above, after full development in the lower basin in the United States more than half of Mexico's allocation under the proposed treaty, or in excess of 750,000 acre-feet per year, will probably then be comprised of return flow. Thus, the United States will receive credit for over half of Mexico's allocation without any use of primary waters. The balance remaining represents less than 5 percent of the average annual run-off of the Colorado River Basin. The amount of 1,500,000 acre-feet allotted to Mexico under the proposed treaty probably will require the use of less primary waters than the 1929 offer, and perhaps even less in total quantity of water passing to Mexico than was involved under the 1929 offer.

(e) During the negotiations leading up to the signing of the present treaty, the Department of State worked in close cooperation and consultation with the Committee of Fourteen and Sixteen of the Colorado River Basin States. At a meeting of this committee, held at Santa Fe, N. Mex., in April 1943, a resolution defining suggested limits for a treaty with Mexico was approved by a large majority of the members. The treaty allocation to Mexico of 1,500,000 acre-feet per year is within the limits approved by that resolution, and in some respects is more favorable to the United States than the proposal of the so-called Santa Fe formula.

(f) The amount of 1,500,000 acre-feet per year allotted to Mexico was arrived at after months of negotiation, and was the least that Mexico would accept. This does not mean, however, that the American representatives regard this figure as inequitable or as being in excess of what Mexico would reasonably expect to obtain as a result of arbitration. Mexico, at the time of the negotiations in 1929, had adhered to a figure of 3,600,000 acre-feet. The present proposed treaty allocation is only about 42 percent of this earlier demand. The present negotiators also had in mind that Mexico was currently using in excess of 1,800,000 acre-feet per year, with opportunities for further vast development. Finally, some benefit will be derived from the settlement, for all time, of the respective rights of the two countries in the waters of the Colorado River, thus permitting developments to proceed free from the uncertainties of the present situation. It must be borne in mind that the United States is now using much less than half of the water allocated by the provisions of the Colorado River compact. This is true in both basins, and is true, also, of the lower basin with respect to the amounts covered by contracts. An average of over 7,000,000 acre-feet of water per year has wasted into the Gulf of California since 1938, when Lake Mead had substantially filled.

The escape clause in this article is patterned after a somewhat similar one in the convention with Mexico of 1906, providing for the equitable distribution of the waters of the Rio Grande above Fort Quitman, which clause has worked satisfactorily in practice. Any extraordinary drought affecting the water supply of the Colorado River Basin in the United States will occur in the upper basin, and the effects will first be felt there. The escape clause in article 10 will be applied whenever such a condition exists in the upper basin that there must be a reduction in that basin's over-all consumptive use in order to make possible the delivery of an average of 75,000,000 acre-feet in 10-year progressive series at Lee Ferry, in accordance with the provisions of the Colorado River compact. The clause would also apply when the effects of such an extraordinary drought are felt in the lower basin, to the extent that uses in that basin must be curtailed. In other words, under the wording of the escape clause, neither the extraordinary drought, nor the consequent reduction of consumptive uses, need be felt simultaneously in all parts of the Colorado River Basin in the United States in order for the clause to be invoked. It is sufficient if there be such a drought in any portion of the basin, requiring a reduction of consumptive uses anywhere in the basin, in the United States. The reduction in deliveries to Mexico, however, will be proportionate to the over-all reduction of consumptive uses in the United States.

Article II. Places of delivery of the waters allocated to Mexico

This article provides that the waters allotted to Mexico by article 10 shall be made up of the waters of the Colorado River whatever their origin, and shall be delivered to Mexico in the boundary portion of the Colorado River, except that until 1980 Mexico may receive 500,000 acre-feet annually, and after that year 375,000 acre-feet annually, through the All-American Canal, as part of the guaranteed quantity. If the Mexican diversion dam is located entirely in Mexico, the United States undertakes to deliver, at Mexico's request, up to 25,000 acre-

feet annually out of the allocation at the Sonora land boundary near San Luis. This latter quantity of water will be made up largely, if not entirely, of waste and return flows from the Yuma project.

The use of the All-American Canal, among other facilities in the United States, for the delivery of water to Mexico, was suggested in a resolution of the Committee of Fourteen and Sixteen at the meeting in Santa Fe in April 1943. Provision was made in the constructed capacity of the All-American Canal down to Pilot Knob for the use of the canal to carry a maximum of 3,000 cubic feet per second of water in excess of the needs of the United States. Limitations on the deliveries of Mexican water through this canal were fixed in the treaty provisions with the approval of officials of the Bureau of Reclamation.

In prior years water has been supplied to lands in Sonora by pumping from the Yuma project, by virtue of contracts with the Bureau of Reclamation, and it is probable that some financial adjustment must be made with the Yuma project to compensate for the loss of the revenue so derived, which in any event was small in amount, and which did not compensate for the cost of pumping.

Article 12. Construction of Works

Article 12 (a) requires that Mexico construct, at its expense, a main diversion structure in the river below the upper international boundary. Such a structure is necessary in order to permit the utilization of drainage and return flows from the United States, which will form the main part of Mexico's allocations. This provision is surrounded with proper safeguards, however, for the protection of lands within the United States. Thus, if the dam is located in the limitrophe section of the river, its location, design and construction are subject to the approval of the Commission, which will thereafter operate and maintain the structure at Mexico's expense. Regardless of where the structure is located, provision is made for the construction by the two sections, each within its own territory but at Mexico's expense, of such levees, interior drainage facilities, and other works as may be necessary to protect lands within the United States against damage from such floods and seepage as might result from the construction and operation of the diversion structure.

Paragraph (b) of article 12 provides for the construction by the United States of Davis Dam and Reservoir, a part of the capacity of which is necessary to make possible the regulation at the boundary of the waters to be delivered to Mexico. The Congress has heretofore authorized construction of this dam by the Bureau of Reclamation. While it is designed primarily for the reregulation of waters released from Boulder Dam so as to permit the maximum use of these waters for the generation of power, one of the reasons assigned for its construction was to regulate waters which might be allocated to Mexico by treaty or otherwise, and provisions was made in the plans for this purpose. Hence, no change in design is necessary. The treaty specifies no particular agency which must construct this dam, and, under congressional authorization previously made, the Bureau of Reclamation will have charge of its construction, operation, and maintenance. The only province of the United States section of the Commission, then, will be to furnish to the officials of the Bureau of Reclamation the annual schedules of delivery that are presented by the Mexican section, to the end that the Bureau can so operate this structure as to make available to Mexico at the boundary the waters to be delivered to Mexico, in the quantities and at the times called for by the schedules. Similarly, the Bureau of Reclamation would operate the Imperial Dam and the Imperial Dam-Pilot Knob reach of the All-American Canal so as to insure compliance with the Mexican schedules relating to the delivery of waters at the boundary line by means of the All-American Canal. A somewhat similar arrangement between the Bureau of Reclamation and the United States Section of the Commission is in effect on the Rio Grande Project with respect to the operation of Caballo Dam, as has previously been pointed out.

Paragraph (c) of article 12 provides for the acquisition or construction by the United States, within its own territory, of any other works that may be necessary to convey the waters allotted to Mexico to the Mexican diversion points referred to in the treaty. All of such works which are to be used exclusively for this purpose are to be constructed and acquired, and thereafter operated and maintained, at Mexico's expense. This provision is in conformity with the resolution adopted by the Committee of Fourteen and Sixteen of the Colorado River Basin States at its meeting in Santa Fe in April 1943, hereto-

fore alluded to, which pointed out the necessity for the ownership and control of all such facilities by the United States.

Paragraph (d) of article 12 provides for the construction and operation of gaging stations on the river and on all other carrying facilities used for the delivery of water to Mexico, in order to keep a complete record of the flow of the river and of the waters so delivered to Mexico.

Article 13. Flood control

This article provides for a study and preparation of plans for flood control on the lower Colorado River below Imperial Dam in both the United States and Mexico, and for the building of any flood control works which may be recommended as a result of the studies and approved by the two Governments. There is thus no absolute obligation on the part of either Government to construct any such works, this being left for future determination. The importance of this provision, however, lies in the fact that the largest recorded floods in the lower Colorado River have had their origin in the Gila River and not in the main stream of the Colorado River and, hence, this factor is unaffected by the construction of Boulder Dam and other regulatory works on the Colorado River.

The works which should probably be constructed under this article of the treaty include a flood-control dam and reservoir at some suitable site—possibly the Sentinel site—on the lower Gila River, and levees extending along both banks of the Colorado River from Imperial Dam to some point on the Mexican delta. There is also in contemplation the channelization of the lower Colorado River so as to provide a straightened channel more capable of carrying extensive floods.

The importance, from the standpoint of the United States, of extending flood-control works into Mexico lies in the fact that, because of topographical conditions, it is possible for the river in times of flood to escape its bed in Mexico and flow through the Imperial Valley into the Salton Sea, thus flooding large areas of the Imperial Valley. This actually happened in the early part of this century, as has previously been pointed out. The Imperial irrigation district of California has in the past expended large sums of money for the construction of levees along the Colorado River in Mexico in order to prevent the recurrence of such a situation.

Article 14. Payment by Mexico for the use of the All-American Canal in delivering a portion of its waters

This article provides that Mexico shall pay a proportionate part of the costs of construction, operation, and maintenance of Imperial Dam and the Imperial Dam-Pilot Knob section of the All-American Canal in consideration of the use of these facilities in delivering to Mexico a part of its allotment of the waters of the Colorado River. This will operate to decrease proportionately the costs of construction, operation, and maintenance to be borne by American users. If power is developed at Pilot Knob, and revenues from the sale of such power become available for the amortization of part or all of these costs after the cost of the power facilities is repaid, Mexico's portion of such costs will be reduced or repaid in the same proportion as the balance of the total costs are reduced or repaid. This provision, however, does not give Mexico any interest in such power except to the extent that revenues from the sale thereof are used to reduce its obligations.

Article 15. Mexican schedules of delivery

This article provides for the delivery to Mexico of the water allotted to her at the points of delivery specified in article 11 in accordance with annual schedules of deliveries by months which the Mexican section is to formulate and present to the Commission before the beginning of each calendar year. Separate schedules are to be formulated for deliveries in the river and for deliveries through the All-American Canal. These schedules are subject to certain limitations, especially in regard to minimum and maximum rates of flow at different times of the year, in order to provide assurance that the United States, in the period of ultimate development, will obtain credit for practically all of the return and other flows that may be expected in the river as a result of United States uses and operations.

The intention of this article is that the Mexican schedules shall conform to her current pattern of use, and this interpretation is confirmed by an exchange of correspondence between the American and Mexican Commissioners.

The importance of these schedules in assuring credit to the United States for its drainage, return, and other excess flows is illustrated in the provisions for minimum rates of delivery during the months of January, February, October, November, and December of each year. During these months there is always expected to be a certain quantity of water flowing in the river which would pass to Mexico in any event, but for which the United States desired to receive credit against Mexico's allotments. The article provides, therefore, that the Mexican schedules must prescribe certain minimum rates of deliveries during these months. This will require some change in Mexico's present irrigation practices, which practices do not now involve any considerable amount of winter irrigation use. The effect of this will be to require a more economical use of water in Mexico and at the same time assure to the United States credit for its return and other waste waters.

The limitations placed upon the use of the All-American Canal in articles 11 and 15 were developed in consultation with officials of the Bureau of Reclamation and met with their approval. At the time the All-American Canal was constructed it was envisioned that a proportion of its capacity might be used for the delivery of water to Mexico, and additional capacity was provided, at least partly for this purpose. There is thus no conflict between this use and the use of the canal for delivery of water to the Imperial irrigation district and the Coachella Valley. Such use has the advantage of permitting the development of hydroelectric power at Pilot Knob.

Mexico is permitted to vary her schedules from time to time within the year, within certain limitations, as circumstances require, but always subject to the limitations as to total amounts and rates of delivery prescribed by the treaty.

IV. TIJUANA RIVER

Article 16

This article provides for investigation by the Commission of the problems of the Tijuana River, including flood control, conservation, and the equitable distribution of its waters, the two Governments agreeing to construct such works as may be recommended as a result of the studies and approved by them. There is thus no absolute obligation to construct any works.

It is possible that the general plan for development of the Tijuana River will include the construction of a flood control and storage structure at some advantageous site, of detention dams, and of levees along the lower reaches of the stream. These constructions will probably make available an amount of water, for use in both countries, in excess of 12,000 acre-feet annually. After taking care of existing uses, the remaining part of the United States share of this water could be used by the city of San Diego as a part of its domestic water supply or could be used for the irrigation of areas outside of that city.

The detention dams and reservoirs are contemplated for the purpose of reducing the magnitude of future floods and as a means of replenishing the underground waters, the flood-control levees along the lower reaches of the stream being for the protection of developed lands in both countries. Through the provision of gates through these levees the control flooding of lands for irrigation or for the purpose of allowing the replenishment of the underground water supply can be permitted at such times as river flows are passing in the channel.

The article makes provision for a division of the work to be done or the cost thereof, as may be agreed upon by the two Governments. Costs of joint operation are to be borne equally by the two Governments, and each Government agrees to pay the cost of operation and maintenance of the works assigned to it for such purpose.

V. GENERAL PROVISIONS

Article 17. Use of river channels for flood discharges

It was felt during the treaty negotiations that the prescribing of schedules of deliveries might imply some limitation on the right to discharge waters in the river channel in excess of those schedules. Consequently, the provisions of this article were designed to make it clear that no obligation rested upon one

country to control the floods or releases of excess water for flood control, power development, or other purposes, for the benefit of the other. This provision is important to the United States primarily with respect to operations on the Colorado River.

Each Government, however, agrees to furnish to the other advance information which it might have with respect to such floods and other excess flows, and declares its intention to operate its storage dams in such manner, consistent with the normal operations of its hydraulic systems, as to avoid, as far as practicable, material damage in the territory of the other.

Article 18. Use of the water surface of artificial lakes on the international boundary

This article makes possible the common use of the surface of lakes formed by international dams, for recreational purposes and other purposes not of a military character, by the citizens of both countries, subject to the police regulations of each country in its own territory, and subject, also, to such regulations as may be prescribed by the Commission with the approval of the two Governments, and to regulations by each section governing the use of those portions of the lakes which are situated within the territorial jurisdiction of the respective sections.

This article would have application only on the Rio Grande, where provision is made for the construction of storage dams on the international river.

Article 19. Generation, development, and disposition of electrical energy

This article makes provision for the regulation by the two Governments (not the Commission) of the generation and disposition of electric energy at the international plants which may be built on the boundary portion of the Rio Grande.

Article 20. General provisions for the construction of works prescribed by the treaty

This article provides that each Government, through its section of the Commission, shall carry out the construction of works assigned to it under provisions of the treaty. In the construction of these works, however, the respective sections of the Commission may make use of any competent public or private agencies in accordance with the laws of the respective countries.

This provision is important in that, while it centralizes the work to be performed under the jurisdiction of the Commission or its respective sections, it permits the work to be done by contract or through some other public agency. The Davis Dam, for instance, will be constructed, and thereafter operated and maintained, by the Bureau of Reclamation, in accordance with prior congressional authorization. With respect to the dams to be constructed on the Rio Grande, this work might be accomplished under contracts with private contractors, by force account, or by some other public agency, such as the Bureau of Reclamation, as may seem desirable. In any event, of course, the work would be subject to the supervision of the Commission.

The article further exempts from import and export duties all materials to be used in the construction of the works. A similar provision is found in the convention of February 1, 1933, between the United States and Mexico, relating to the rectification of the Rio Grande in the El Paso-Juarez Valley, and this has worked satisfactorily in practice. It also exempts from immigration restrictions and labor requirements the personnel employed in the construction of the works. The lack of a similar provision in the convention of 1933 was a source of embarrassment, in that it prevented the American section from performing by contract, the work assigned to it. The provision will be especially important on the Rio Grande, where works of the greatest importance, including three major storage dams, are to be constructed on the international portion of the river. It is probable that at least some of this construction can be carried out most advantageously by private contract; but, in the absence of such a provision, a contractor would be handicapped in having to comply with the immigration and labor laws of Mexico in carrying on construction on the Mexican side of the river. It is, of course, physically impossible to divide this work at the international boundary line.

The article further provides that each Government shall assume responsibility for the settlement in accordance with its own laws, of claims arising

within its own territory in connection with the construction, operation or maintenance of the works agreed upon. A similar provision is found in the Rectification Convention of February 1, 1933. The effect of such a provision is to prevent nationals of Mexico, for instance, from making claim against the United States for any damages which they might allege arose out of works carried on by United States agencies within Mexican territory, or even of works in the territory of the United States which it might be alleged caused damage to Mexican property.

Article 21. Effect on the international boundary

This article provides that the construction of the international dams and the formation of artificial lakes shall produce no change in the fluvial international boundary, which will continue to be governed by existing treaties between the two countries. Thus, because of the contour of the land and the meandering nature of the river, a dam, or the lake formed by a dam, might lie more within the territory of one nation than of the other and, consequently, the center line of the structure or the lake would not necessarily be the international boundary. For the purpose of the application of the customs and police regulations of the two countries, and for the exercise of the jurisdiction and control vested by the treaty in the Commission and its respective sections, however, the Commission, with the approval of the two Governments, is authorized to establish in the artificial lakes, by buoys or by other suitable markers, a more practicable and convenient line. The jurisdiction of the Commission, of course, extends only to the administration of the provisions of the treaty and regulations adopted thereunder. The administration of the customs and police regulations remains in the appropriate authorities of the two countries.

This article will have application only on the Rio Grande.

Article 22. Effect of canalization or rectification on delimitation of the boundary, distribution of jurisdiction and sovereignty, and relations with private owners

This article provides that the provisions of the convention of February 1, 1933, for the rectification of the Rio Grande in the El Paso-Juárez Valley, shall govern, so far as delimitation of the boundary, distribution of jurisdiction and sovereignty, and relations with private owners are concerned, in any places where works for the artificial canalization or rectification of the Rio Grande and the Colorado River are carried out. The relevant provisions of the convention of February 1, 1933 are found in articles V, VI, VII, and VIII of that convention. These provisions are substantially as follows:

The Commission is required to survey the ground to be used as the right-of-way of the rectified channel and that to be cut from each side of the channel, and to mark the new boundary after a cut has been made. Areas cut from each country by the rectification process are to be equalized, the international boundary to be the middle of the deepest channel of the river within the rectified channel. Sovereignty and full ownership over areas so cut pass to the country on whose side of the rectified channel they become situated. Each Government is to acquire, in full ownership, the lands on its side of the axis of the rectified channel, both those within the rectified channel as well as those which, upon segregation, pass from the territory of one country to that of the other. Neither country acquires any property rights in, or any jurisdiction over, territory of the other by virtue of the construction of the works. And finally, it is required that each Government shall permanently retain full title, control and jurisdiction of that part of the flood channel so constructed from the deepest channel of the running water in the rectified channel to the outer edge of the right-of-way so acquired.

Article 23. Ownership and jurisdiction of property necessary for effectuation of treaty provisions

Each Government agrees to acquire any private property necessary for the construction of the works agreed upon in the treaty. Ordinarily this property is to be acquired at the expense of the country within which it is situated. There are instances, however, where this is not true. In connection with the Colorado River, for instance, Mexico, under the provision of other articles, agrees to pay a

proportionate part of the cost of certain property and works located in the United States to be utilized in the delivery to Mexico of her allocated water supply, and to pay all the cost of certain other works to be devoted exclusively to this purpose.

Provision is also made for the construction and operation in one country of works necessary for the conveyance of water or electrical energy for the benefit of the other country. Such works, however, are subject to the jurisdiction of the section of the Commission within whose country they are located.

This article further provides that construction of the works built in pursuance of the provisions of the treaty shall not confer upon either of the two countries any rights, either of property or jurisdiction, over any part of the territory of the other. A somewhat similar provision is to be found in the Rectification Convention of February 1, 1933. However, where incidents occur on works, such as dams or bridges, constructed across the limitrophe portion of the river and with supports on both banks, the jurisdiction of each country is limited by the center line of such works, which are to be marked by the Commission, without thereby changing the international boundary. This provision is a matter of convenience in the administration of the police regulations of the two countries, and will have its principal application on the Rio Grande, although such works may be constructed also on the limitrophe portion of the Colorado River.

It is further provided that each Government shall retain, through its own section of the Commission, and within the limits and to the extent necessary to effectuate the provisions of the treaty, ownership, control and jurisdiction, within its own territory, over real property and works acquired or constructed pursuant to the treaty. A somewhat similar provision is also found in the Rectification Convention of February 1, 1933, and, as far as the United States is concerned, the provision is in keeping with the resolution of the committee of fourteen and sixteen adopted at Santa Fe in April 1943, advocating ownership and control by the Government of all facilities to be used in connection with the delivery to Mexico of water allocated to her.

The clause relating to section control of these facilities is consistent with the general purpose of the treaty in centralizing all activities of an international character involved in carrying out the terms of the treaty. Somewhat parallel provisions are also found in articles 2, 20, and 24 of the treaty, the intent of all these provisions being to vest in the respective sections of the Commission the responsibility of seeing that the treaty terms are carried out.

It would be impracticable, of course, to require the United States to deal with various and numerous Mexican agencies with respect to various provisions of this and other boundary and international water treaties, even though these other agencies should, as a matter of internal arrangement, discharge some of the functions imposed upon the Mexican section. By virtue of these provisions the United States looks to, and deals only with the Mexican section, which in turn deals with whatever Mexican agencies may be entrusted with various functions connected with the fulfillment of treaty terms. Similarly, the Mexican section has a right to look to the American section alone. It is not required to deal with various other agencies, Federal, State, or local, although, as a matter of internal arrangement, other such agencies within the United States may directly construct, operate, and maintain some of the facilities connected with the fulfillment of the treaty terms. The significant words in article 23 with respect to this matter are "within the limits and to the extent necessary to effectuate the provisions of this treaty."

By way of illustration, part of the capacity of Davis Dam is necessary to regulate Mexico's water at the boundary. This does not mean that the American section of the Commission must build Davis Dam, nor must it exercise jurisdiction over its operation and maintenance other than to furnish the Bureau of Reclamation with the Mexican annual schedules of delivery in order that the Bureau may so operate the structure as to insure compliance with the schedules. This is true, also, of the operation and maintenance of Imperial Dam and the All-American Canal.

If thought desirable, these and similar matters can be handled by interdepartmental agreement among the various American agencies which might be involved, similar to the arrangement between the American section and the Bureau of Reclamation with respect to the operation of Caballo Dam on the Rio Grande which has international significance in the control of floods and in making deliveries to Mexico of the waters allotted to her under the convention of 1906. This arrangement has always worked well in practice.

Other illustrations could be given, but the sole point is that the true meaning and import of all these provisions in the treaty is that the two sections of the Commission are charged with the fulfillment of treaty obligations, each within its own country. Beyond this, jurisdiction is retained in any other appropriate agency.

Article 24. Powers and duties of the International Boundary and Water Commission

This article outlines certain powers and duties of the Commission which are not specifically mentioned in other articles of the treaty.

Paragraph (a) provides that the Commission shall initiate and carry on investigations and develop plans for the works provided for in this and other agreements between the two Governments dealing with boundaries and international waters, and to make recommendations for the financing of the works and the division of costs. These duties are already enjoined upon the United States section in large measure by the act approved August 19, 1935 (49 Stat. 660).

Paragraph (b) requires the Commission, or its respective sections, to construct, operate, and maintain the works agreed upon, or to supervise such construction, operation, and maintenance, each section within the territory of its own country. What was said with respect to the provisions of article 23 concerning the jurisdiction of the two sections is also applicable here. This jurisdiction extends only to such supervision as may be required to fulfill treaty obligations.

Paragraph (c) generally charges the Commission with the duty of exercising and discharging the specific powers and duties entrusted to it by this and other treaties and agreements in force between the two countries, and requires the authorities of each country to aid and support the exercise and discharge of these powers and duties.

Paragraph (d) provides that the Commission shall settle all differences that may arise between the two Governments with respect to the interpretation or application of the treaty, subject to the approval of the two Governments. Where the Commissioners fail to reach an agreement, they shall so inform their respective Governments in order that the matter in controversy may be adjusted through regular diplomatic channels.

Paragraph (e) requires the Commissioners to furnish any information to their respective governments which the two governments may request.

Paragraph (f) requires the Commission to construct, operate, and maintain upon the limitrophe parts of the international streams, and each section to construct, operate, and maintain upon the parts of the international streams and their tributaries within the boundaries of its own country, such stream gaging stations as may be needed to provide the hydrographic data necessary or convenient for the proper functioning of the treaty, and provides for the periodical exchange of this data. This provision is cumulative of similar provisions in the treaty relating to the Rio Grande and the Colorado Rivers.

Paragraph (g) provides that the Commission shall submit annually a joint report to the two Governments on the matters in its charge, and shall also submit joint reports on general or any particular matters at such other times as the Commission may deem necessary or as may be requested by the two Governments.

It may be observed generally as to all these provisions that they serve, for the most part, to clarify powers and functions of the Commission which already exist in fact under the provisions of other treaties and under legislation in the two countries.

Article 25. Rules governing the proceedings of the Commission

This article provides that articles III and VII of the convention of March 1, 1889, which created the Commission, shall govern the proceedings of the Commission in carrying out the provisions of the treaty, and that, supplementary thereto, the Commission shall establish a body of rules and regulations governing its proceedings, subject to the approval of both Governments.

Articles II and VII of the convention of March 1, 1889, provide, in substance, that the Commission shall not transact any business unless both Commissioners are present; that it shall sit on the frontier of the two contracting countries, and shall establish itself at such places as it may determine upon, but it shall repair to places at which any of the difficulties mentioned in the convention may

arise; that it shall have power to call for papers and information on boundary matters within its jurisdiction, and shall have the power to summon witnesses.

Article 25 of the treaty also provides for the form of the minutes of the Commission and requires that they be forwarded to each Government within three days after being signed. Except where the specific approval of the two Governments is required by any provision of the treaty, if one of the Governments fails to communicate to the Commission its approval or disapproval of a decision of the Commission within 30 days from the date of the particular minute, the minute in question is considered as having been approved by that Government. This provision is patterned after a similar one in article VIII of the convention of March 1, 1889.

VI. TRANSITORY PROVISIONS

Article 26. Rio Grande

The provisions of the treaty relating to the division of the waters of the Rio Grande below Fort Quitman cannot be of much benefit to either country until international storage is provided, and particularly storage at the lowest practicable reservoir site near Salineño, Tex. By the provisions of article 5 the lowest dam is to be constructed within a period of 8 years from the effective date of the treaty. To bridge the gap pending the construction of this dam, Mexico agrees, in article 26, to cooperate with the United States to relieve in times of drought any lack of water needed to irrigate the lands that were under irrigation in the lower Rio Grande Valley in the United States in 1943, by releasing water from El Azúcar Reservoir on the San Juan River and allowing that water to run into the Rio Grande for diversion there by the United States. Mexico guarantees that, if necessary, the water so released will amount, over this entire period, to a total of 160,000 acre-feet and up to 40,000 acre-feet in any one year, subject to certain conditions as to rates of flow. In addition to this guaranteed amount, Mexico will make available during this period and for this purpose, any surplus waters not currently needed in Mexico. The amounts guaranteed are estimated to be sufficient to provide reasonable protection to the irrigation interests in the lower Rio Grande Valley in the United States, based upon the history of past droughts.

Article 27. Colorado River

This article provides that the provisions of the treaty relating to deliveries to Mexico of the waters of the Colorado River are not to be applied until the Davis Dam and the major Mexican diversion structure on the Colorado River are placed in operation, or for a maximum period of 5 years, this being the time within which the two countries agree to construct these works. In the meantime, Mexico is given permission to construct and operate, at its expense, a temporary diversion structure in the bed of the Colorado River in United States territory for the purpose of diverting water into the Alamo Canal, provided that the plans for such structure and the construction and operation thereof shall be subject to the approval of the United States section.

During this period of time the United States agrees to make available in the river at such diversion structure, river flow not currently required in the United States, and to cooperate with Mexico to the end that the latter may satisfy its irrigation requirements within the limits of those requirements for lands irrigated in Mexico from the Colorado River during 1943.

This provision, then, is somewhat parallel to the provisions of article 26 relating to Mexican cooperation during the interim period on the lower Rio Grande, with the difference, however, that the United States does not guarantee to supply to Mexico during this period any certain amount of water of the Colorado River.

Cooperation by the United States during this period might conceivably take either or both of two forms: First, the United States could make available in the river at the temporary Mexican diversion structure a sufficient quantity of river flow not currently required in the United States, to make possible the diversion of water into the Alamo Canal required by Mexico, which is the method specifically provided by this article, or second, the United States could deliver surplus waters sufficient for Mexico's irrigation requirements through the All-American Canal and a canal from the lower end of the Pilot Knob drop struc-

ture to the boundary line. It would appear that, assuming a plentiful supply of water, the first course would be taken; and, assuming a deficient supply of water, the latter course would be taken. Both conditions might prevail during the 5 years which will probably be required for the completion of Davis Dam and the permanent Mexican diversion structure.

VII. FINAL PROVISIONS

Article 28

This article provides that ratification of the treaty shall be exchanged in Washington, and that the treaty shall enter into force on the day of such exchange and shall continue in force until terminated by another treaty concluded for that purpose between the two Governments.

EXHIBIT I, PROPOSAL OF DEPARTMENT OF STATE SANTA FE FORMULA

It is proposed that the United States make the following deliveries of water to Mexico in complete satisfaction of any and all demands by Mexico now or hereafter, whether on the basis of established use, equity, or otherwise:

A. The United States shall deliver each year, at designated places so far as practicable, at the international boundary and distribute through the year as requested by Mexico and approved by the United States an amount of water equal to 10 percent of diversions for that year from the Colorado River for agricultural and domestic use in the States of Arizona, California, and Nevada.

B. In addition to the deliveries specified in paragraph A, the United States shall deliver, at designated places so far as practicable, at the international boundary for use in Mexico any other water arriving and being available at the international boundary from the Colorado River: *Provided*, That the aggregate amount of water divertible under this paragraph B shall never be less than 750,000 acre-feet in any year: *And provided further*, That the aggregate deliveries by the United States to Mexico, including the amounts specified in paragraph A, shall not be more than 2,000,000 acre-feet in any year.

C. Mexico shall not demand, and the United States shall not be required to make, deliveries of water to Mexico at rates in excess of 5,000 cubic feet per second.

D. Mexico shall not demand, and the United States shall not be required to make, deliveries of water which cannot be beneficially used in Mexico.

E. Mexico shall concede that it may not acquire any interest in, or make any claim to, the use of Colorado River waters in excess of the allocations made herein; and any deliveries of Colorado River water by the United States to Mexico in excess of the deliveries under paragraph A and the minimum 750,000 acre-feet delivery specified in paragraph B shall be subject to such excess water arriving and being available at the international boundary.

F. In case of extraordinary drought or serious accident to the irrigation system in the United States, the amount of water delivered to Mexico shall be diminished in the same proportion as the water delivered to lands under the irrigation system below Boulder Dam in the United States.

EXHIBIT II. STATEMENT OF POLICY BY COMMITTEE OF SIXTEEN

1. To further the public interest, to promote international comity, to effectuate by the exercise of national sovereignty the most certain and economical delivery of water, to insure the greatest beneficial use of water and to aid in obtaining a minimum allocation of water to Mexico, it may become necessary that the Imperial Dam, the Pilot Knob power site, and the All-American Canal from the Imperial Dam down to Pilot Knob power site, and all other artificial facilities constructed and to be constructed, and used and to be used, for the delivery of water from the basin of the Colorado River in the United States to Mexico under any treaty allocating any of such waters shall be owned by, under the control of, and operated by the United States and that all such natural facilities shall be under the control of the United States. To attain these objectives and to protect the irrigated and irrigable lands in both the United States and Mexico, it is further necessary to recognize the following:

(a) That the conservation of the water of the Colorado River may require the most economical methods of delivery of usable water to Mexico; and that to accomplish this purpose consideration must be given to the following places of delivery, or combinations thereof:

- (1) By way of Pilot Knob wasteway or the tail race of the Pilot Knob plant.
- (2) By way of the Yuma main canal.
- (3) By way of Colorado River and the Rockwood heading of the Alamo Canal.
- (4) From Colorado River in the international section and in Mexico.
- (5) Any drainage works suitably located from which delivery of water may be made to Mexico.
- (b) That the channelization of the Colorado River in the international section and in Mexico, the construction and maintenance of adequate levee protection in the international section and in Mexico, the construction of flood-control facilities on the Gila River, and the reregulation of the Colorado River by the proposed Davis Dam and Reservoir are all of paramount importance.
2. The matters above mentioned should be included in any negotiations with Mexico, and made a part of any treaty concerning any allocation of the waters of the Colorado River between the United States and Mexico.

RESOLUTION BY COMMITTEE OF SIXTEEN, COLORADO RIVER BASIN

REPORT OF COMMITTEE

Your committee heretofore designated to formulate a resolution showing the action of the Committee of Sixteen in acting upon a motion to approve the proposal of the Department of State in reference to allocation of waters of the Colorado River between the United States and Mexico, submit herewith their report in the form of the following resolution:

"RESOLUTION

"Be it resolved, That this committee approve, in principle, the proposal submitted to it by the Department of State as a basis for negotiations with the Republic of Mexico for an equitable apportionment of the use of the waters of the Colorado River between the two nations; be it further

"Resolved, That it is the sense of the committee that the quantity of water required to be delivered to Mexico by the provisions of paragraphs A and B, as limited by paragraph E, of the proposal as submitted, be treated as a maximum quantity, and that the ultimate quantity of water to be delivered to Mexico under the provisions of any Treaty be kept within such limitations; be it further

"Resolved, That we respectfully suggest that further consideration of the Department of State be given to the language of paragraph F of the proposal so as to make it more protective to the United States, and so it will cover other conditions as to possible future water shortages peculiar to the Colorado River system."

EXHIBIT IV. RESOLUTION BY COMMITTEE OF SIXTEEN, COLORADO RIVER BASIN

WALLACE RESOLUTION

Resolved, That the representatives of the seven States of the Colorado River Basin, having full faith and confidence in the representatives of the Department of State of the United States, and having, at a series of meetings, had opportunity to present to said representatives full and complete information and data as to all conditions affecting each State in a division of the waters of the Colorado River between the United States and the Republic of Mexico, and based upon such information and data the Department of State has presented to the representatives of the seven States a formula for the division of said waters between the United States and the Republic of Mexico.

Now, therefore, the representatives of the seven States having approved the treaty suggestion as contained in such formula, express the hope that at the conclusion of the treaty negotiations the amount of water to be delivered to Mexico may be substantially less than the amount suggested in said formula. The representatives of the seven States are confident the treaty will contain provisions for the most careful conservation of the water supply and for the fair compensation to water users within the United States for the facilities used in the delivery of water to Mexico.

EXHIBIT V. WATER NOTICE

APRIL 25, 1899.

To Whom It May Concern:

Notice is hereby given that I, C. N. Perry, a citizen of this United States of America and of the State of California, do for myself and the California Development Co., a corporation duly and lawfully organized on the 24th day of April 1898 under and by virtue of the laws of the State of New Jersey, one of the United States of America, claim 10,000 cubic feet per second of the water of the Colorado River flowing by the intended point of diversion, as follows:

The intended point of diversion is located on the SW $\frac{1}{4}$ sec. 25, T. 16 S., R. 21 E., San Bernardino base and meridian, and being further described as a point of location on the west bank of the Colorado River, in San Diego County, State of California, 1 $\frac{1}{4}$ miles, more or less, up the river from the point where the international line between the United States of America and the Republic of Mexico intersects the west bank of the Colorado River.

The said point of diversion is more specifically described as extending from a point due east of the pumping plant of the Paymaster Mining Co. up the river a distance of 500 feet, more or less, to a hill.

I claim the right to the said 10,000 cubic feet per second for the purpose of developing power and for the irrigation of lands in San Diego County, State of California, United States of America, and in Lower California, Republic of Mexico.

The purpose of this claim is to carry the water herein appropriated from the above-described point of diversion through a canal which will run in a southwesterly direction through Lower California, Republic of Mexico, and from thence into that portion of San Diego County, State of California United States of America, lying to the east of the San Jacinto Mountains, and known as the New River country.

Said canal will be 200 feet, more or less, in width, and will carry approximately in depth 10 feet of water; the length of the canal will be 80 miles, more or less.

C. N. PERRY.

I, W. T. Heffernan, a citizen of Yuma, Ariz., United States of America, do hereby certify that I witness the posting of the original notice, of which the foregoing is a true, correct, and faithful copy.

W. T. HEFFERNAN.

I, C. N. Perry, the within-named person, who filed the foregoing notice of water appropriation, do, for \$1 and other valuable considerations, hereby assign all my right, title, and interest in the within-named claim of the right to appropriate water from the Colorado River to the amount named herein, being 10,000 cubic feet per second, to the said California Development Co.

C. N. PERRY.

Recorded at request of C. N. Perry, May 2, 1899, at 9 o'clock a. m.

JNO. F. FORWARD, *Recorder*.By A. P. JOHNSON, Jr., *Deputy Recorder*.

Fee \$1.

EXHIBIT VI

COLORADO RIVER WATER NOTICE, APRIL 25, 1899, BY C. N. PERRY

[Under this notice Perry assigned all rights to appropriate 10,000 cubic feet per second to the California Development Co.]

1. Claims 10,000 cubic feet per second of Colorado River water passing point of diversion, as follows:

- (a) SW $\frac{1}{4}$ sec. 25, T. 16 S., R. 21 E. (San Bernardino base and meridian).
- (b) Point located on west bank of River, San Diego County, 1 $\frac{1}{4}$ miles (more or less) upstream from international boundary.
- (c) Point is due east of pumping plant of Paymaster Mining Co. and extends upstream 500 feet (more or less) to a hill.

2. Claimed the right to 10,000 cubic feet per second for the purpose of—

- (a) Developing power.
- (b) Irrigation of lands in San Diego County, Calif., United States of America, and in Lower California, Republic of Mexico.

The purpose of claim is to carry water through a canal which will run south-westerly through Mexico and thence into United States into area east of San Jacinto Mountains, known as New River country. Canal to be 200 feet wide (more or less) approximately 10 feet of water depth, and about 80 miles long.

Previous filings on this 10,000 cubic feet per second, were made as follows:

E. I. Rockwell, May 16, 1895.
 W. T. Gonder, July 15, 1895.
 W. T. Hefferman, September 13, 1895.
 W. T. Gonder, November 12, 1895.
 California Development Co., December 15, 1895.
 W. T. Gonder, January 14, 1896.
 W. T. Hefferman, March 16, 1896.
 W. T. Hefferman, May 18, 1896.
 W. T. Hefferman, October 20, 1896.
 W. T. Hefferman, January 23, 1897.
 W. T. Gonder, March 27, 1897.
 W. T. Hefferman, July 24, 1897.
 W. T. Gonder, April 25, 1898.
 California Development Co., October 15, 1898.
 W. T. Gonder, November 4, 1898.
 C. N. Perry and California Development Co., December 21, 1898.
 C. N. Perry and California Development Co., February 20, 1899.
 C. N. Perry and California Development Co., April 25, 1899.

CANAL CONTRACT WITH MEXICO MAY 17, 1904

ARTICLE 1. The Sociedad de Irrigacion y Terrenos de las Baja California, S. A., is authorized to carry through the canal which it has built in Mexican territory, and through other canals that it may build, if convenient, water to an amount of 284 cubic miles per second (10,000 cubic feet per second) from the waters taken from the Colorado River and territory of the United States by the California Development Co. and which waters this company has ceded to the Sociedad de Irrigacion y Terrenos de la Baja California, S. A. It is also authorized to carry to the lands of the United States the water with the exception of that mentioned in the following article:

ARTICLE 2. From the water mentioned in the foregoing article enough shall be used to irrigate the lands susceptible of irrigation in Lower California, with the water carried through the canal or canals, without in any case the amount of water used exceeding one-half of the volume of water passing through said canals.

Other articles which mention the distribution of water refer back to the proportion established in articles 1 and 2.—(From California Publication, "Colorado River and the Boulder Canyon Project," pages 319 and 320.)

EXHIBIT VII. COLORADO RIVER COMPACT

Signed at Santa Fe, N. Mex., November 24, 1922 (briefed R. L. L. Mar. 3, 1943)

PREAMBLE—LISTS THE COMMISSIONERS OF THE SEVERAL STATES AND UNITED STATES

ARTICLE I. Purposes set forth.

ARTICLE II. Definition of terms:

- (a) Colorado River System—(within United States of America).
- (b) Colorado River Basin—Includes areas in United States of America to which Colorado River water may be applied.
- (c) States of upper division—Colorado, New Mexico, Utah, and Wyoming.
- (d) States of lower division—Arizona, California, and Nevada.
- (e) Lee Ferry—point 1 mile below mouth of Paria River.
- (f) Upper basin—drainage area above Lee Ferry, including area to which Colorado River water may be applied.
- (g) Lower basin—drainage area below Lee Ferry, including area beneficially served by waters of Colorado River.
- (h) Domestic use—excludes generation of power.

ARTICLE III. Apportionment of waters:

- (a) Seven million five hundred thousand acre-feet apportioned annually to each—the upper and lower basins.
- (b) One million acre-feet additional—to lower basin.

- (c) Water for Mexico to come first from surpluses over III (a) and (b).
Deficiencies to be equally borne by upper and lower basins.
- (d) Minimum from upper basin—75,000,000 acre-feet in any 10 years.
- (e) Domestic and agricultural requirements to be measure of use.
- (f) Further apportionments provided after October 1, 1963.
- (g) Method for further apportionment as per III (f).

ARTICLE IV. Uses of water:

- (a) Water for navigation to be subservient to uses for domestic, agricultural, and power purposes.
- (b) Water for power to be subservient to uses for agricultural and domestic purposes.
- (c) Provisions of IV not to interfere with use by any State within its boundaries.

ARTICLE V. Cooperation in determination of flow, use, etc.:

- (a) To promote coordination of facts as to flow, etc.
- (b) To secure the amount of the annual flow at Lee Ferry.
- (c) To perform other duties assigned by mutual consent.

ARTICLE VI. Settlement of claims among signatory States: Nothing herein to prevent the adjustment of claims.**ARTICLE VII. Obligations of the United States to Indian tribes: Nothing to be construed as effecting these obligations.****ARTICLE VIII. Present perfected rights: Not to be impaired by this contract. Condition of storage to satisfy lower basin claims. Other rights to be satisfied from water in each basin.****ARTICLE IX. Enforcement of the provisions: Nothing to be construed to limit States from legal proceedings for the protection of rights.****ARTICLE X. Termination of compact: Can be terminated by unanimous agreement of signatory States. In that event, rights established under it shall continue unimpaired.****ARTICLE XI. When compact shall take effect: When approved by legislatures of States and by the Congress.**

SUPPLEMENTS CONTAINING EXHIBITS TO ACCOMPANY THE STATEMENT BY COMMISSIONER, UNITED STATES SECTION, INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND MEXICO, ON WATER TREATY WITH MEXICO SIGNED AT WASHINGTON ON FEBRUARY 3, 1944

EXHIBIT 1. MEMORANDUM ON PRECEDENTS AS TO EQUITABLE DISTRIBUTION OF THE WATERS OF INTERNATIONAL STREAMS

1. THE NILE AGREEMENT, GREAT BRITAIN AND EGYPT, MAY 4, 1929

This agreement sets up certain principles to govern the use of the waters of the Nile by Egypt and the Sudan. The problem is one of a successive river. Egypt, the lower riparian, has for centuries utilized the waters of the Nile, while the development of the Sudan is of recent origin. The Sudan was reconquered by Great Britain and Egypt jointly in the campaigns of 1896-98, and is today ruled by a condominium. The question of the use of the waters of the Nile is of the utmost importance to the two countries concerned, without which they are nothing but deserts.

The agreement provides that the use of Nile water by the Sudan may enjoy such an increase "as does not infringe Egypt's natural and historical rights in the waters of the Nile and its requirements of agricultural extension." The agreement makes further provision for cooperative measures with regard to the accumulation of hydrometric data and limits the Sudan's freedom of action with regard to the construction of works which might affect the flow of the river, as well as extending to Egypt certain privileges within the Sudan. In the Egyptian note the following statements are made:

"It is realized that the development of the Sudan requires a quantity of the Nile water greater than that which has been so far utilized by the Sudan. As your Excellency is aware, the Egyptian Government has always been anxious to encourage such development, and will therefore continue that policy, and be willing to agree with His Majesty's Government upon such an increase of this quantity as does not infringe Egypt's natural and historical rights in the waters of the Nile and its requirements of agricultural extension, subject to

satisfactory assurances as to the safeguarding of Egyptian interests, as detailed in later paragraphs of this note" (par. 2).

"It is further understood that the following arrangements will be observed in respect of irrigation works on the Nile:

"Save with the previous agreement of the Egyptian Government, no irrigation or power works or measures are to be constructed or taken on the River Nile and its branches, or on the lakes from which it flows, so far as all these are in the Sudan or in countries under British administration, which would in such a manner as to entail any prejudice to the interests of Egypt either reduce the quantity of water arriving in Egypt, or modify the date of its arrival, or lower its level" (4, 1, i).

From the Nile commission's report attached to the agreement the following extracts are quoted:

"Precedents in this matter of water allocation are rare and practice varied; and the Commission is aware of no generally adopted code or standard practice upon which the settlement of a question of intercommunal water allocation might be based. Moreover, there are in the present case special factors, historical, political, and technical which might render inappropriate too strict an application of principles adopted elsewhere. The Commission, having regard to the previous history of the question, the present position as regards development, and the circumstances attending its own appointment, decided to approach its task with the object of devising a practical working arrangement which would respect the needs of established irrigation, while permitting such programme of extension as might be feasible under present conditions and those of the near future, without at the same time compromising in any way the possibilities of the more distant future" (par. 21).

"The arrangement contemplated aims at interpreting in definite and technical terms the intentions of the note quoted in the opening paragraph of this report, wherein it was explained that in authorizing extensions of irrigation in the Sudan 'the British Government, however solicitous for the prosperity of the Sudan, have no intention of trespassing upon the natural and historic rights of Egypt in the waters of the Nile, which they recognize today no less than in the past.' The Commission has every hope that its proposals, framed in this spirit, and after full study of the technical aspects of the problem, may form an acceptable basis upon which, by harmonious and cooperative effort, the irrigation development of the future may be founded, and by which all existing rights may be perpetually safeguarded" (par. 22).

"The Commission's main findings may be summarized as follows:

"(i) The natural flow of the river should be reserved for the benefit of Egypt from the 19th January to the 15th July (at Sennar), subject to the pumping in the Sudan as defined below" (Par. 88, i) (British Treaty Series No. 17, 1929, pp. 2, 3, 10, 11, and 29).

The effect of the agreement is to recognize and perpetuate the existing uses in both countries, but to subordinate the interests of the Sudan to those of Egypt as regards future development.

- (1) The African World, May 21, 1929.
- (2) The Nile Waters Agreement, by Pierre Crabitès, Foreign Affairs, volume 8 (1929), No. 1, pages 145-149.
- (3) The Economist, May 11, 1929.
- (4) The Near East and India, May 16, 1929.

Other Nile agreements.

There is a group of five treaties and agreements between Great Britain and other powers designed, from the British point of view, to safeguard Egyptian and Sudanese interests in the waters of the Nile.

(1) An exchange of notes between Great Britain and Italy, dated March 24/April 15, 1891, and for the express purpose of "the demarcation of their respective spheres of influence in eastern Africa," contains the engagement of the Italian Government not to construct on the Atbara, for purposes of irrigation, any work which might sensibly modify that river's flow into the Nile (art. III). The Atbara is a tributary of the Nile and flows from its source in the mountains of Ethiopia in a northwesterly direction to its juncture with the Nile just above Berber in the Sudan.

It has three principal tributary streams, all in the mountains of Ethiopia, but Italian ambitions in the nineties made the possibility appear not remote that most of its sources might soon lie within Italian jurisdiction (Hertslet, Commercial Treaties, XIX, 686-688).

(2) Emperor Menelik II, King of Kings, of Ethiopia, agreed in a treaty signed May 15, 1902, with Great Britain, "not to construct, or allow to be constructed, any work across the Blue Nile, Lake Tsana, or the Sobat which would arrest the flow of their waters into the Nile except in agreement with His Britannic Majesty's Government and the Government of the Sudan" (art. III).

(3) In a treaty dated May 9, 1906, the Independent State of the Congo (now a Belgian colony) undertook "not to construct, or allow to be constructed, any work on or near the Semliki or Isango River which would diminish the volume of water entering Lake Albert, except in agreement with the Soudanese Government" (art. III) (Hertslet, *Map of Africa by Treaty*, II, 585).

(4) December 13, 1906, Great Britain, France, and Italy signed an agreement to preserve the integrity of Ethiopia and provided further that they would safeguard "the interests of Great Britain and Egypt in the Nile Basin, more especially as regards the regulation of the waters of that river and its tributaries (due consideration being paid to local interests) * * *" (art. IV (a)) (Hertslet, *Map of Africa by Treaty*, II, 442).

(5) This principle was reaffirmed in an exchange of notes between Great Britain and Italy December 14/20, 1925, wherein it was provided that Italy recognized the prior hydraulic right of Egypt and the Sudan in their headwaters of the Blue and White Nile Rivers and their tributaries, and agreed not to construct, there any works which might sensibly modify their flow. And also that Great Britain and Italy agreed that the existing uses of the inhabitants of the region should be maintained and that they might be extended where necessary to produce food crops for their own sustenance or domestic use or where used for hydraulic power (50 L. N. T. S. 282).

In the Italian note of December 20, 1925, the following statements are made: "On their side the Italian Government, recognizing the prior hydraulic rights of Egypt and the Sudan, engage not to construct on the headwaters of the Blue Nile and the White Nile and their tributaries and affluents any work which might sensibly modify their flow into the main river.

"I note that His Britannic Majesty's Government have every intention of restricting the existing water rights of the population of the neighbouring territories which enter into the sphere of exclusive outline and economic influence. It is understood that, insofar as is possible and is compatible with the paramount interests of Egypt and the Sudan, the scheme in contemplation should be so framed and executed as to afford appropriate satisfaction to the economic need of these populations."

It is evident that the result of all those agreements is to protect the existing uses in both upper and lower riparian countries, but it is also very limiting on the possible extension of the use in the upper countries.

2. THE KUNENE RIVER, UNION OF SOUTH AFRICA AND PORTUGAL, JULY 1, 1926

From "time immemorial" the flood waters of the Kunene River were accustomed to overflow their banks in certain portions of what is now Portuguese territory (Angola) and were conducted along natural channels into territory now under the mandate of the Union of South Africa, where the lands and pastures were irrigated thereby and the ground water replenished. Eventually the inlets of these flood channels became choked with silt so that the extent and benefits of the periodic inundations were greatly reduced.

The Kunene is a boundary stream for about 250 miles from the Atlantic coast eastward and upstream to the top of the Rua Kana Falls. At this point the river enters Portuguese territory and turns northward passing the Kazambu Rapids and the place called Naullia and thence on in a northerly direction to its headwaters which lie in Portuguese Angola.

The flood channels, mentioned above, leave the east bank of the river above Naullia and also between Naullia and Kazambu Rapids and extend southward into Ovanboland, which is a territory mandated to the Government of the Union of South Africa.

In the treaty, Portugal for "reasons of humanity" concedes to South Africa the right to use up to one-half of the floodwater of the Kunene River for irrigation and inundation of the mandated territory provided the project proves feasible (art. 6). For this purpose South Africa may construct and maintain works within Portuguese territory (art. 8). An international joint technical commission is to report on the feasibility of diverting the water of the Kunene River. No hydraulic works except those specified in the treaty may be constructed by either Government on boundary streams (Kunene and Okavango) without the consent of the other Government.

With regard to the development of hydraulic power, the Government of Portugal agreed that, whereas it was not feasible for economic reasons to construct all the works necessary for the development of hydraulic power within the mandated territory (Union of South Africa), that a dam might be constructed within Portuguese territory, not more than 8 kilometers within the boundary (art. I), by either Government (art. II). The dam might be constructed unilaterally or cooperatively, but "notwithstanding the right which each Government has to one-half share of the water, the Government which constructs the dam, weir, or barrage shall be entitled to the use of all the water, until such time as the other Government shares in the scheme. But the Government entitled to the use of all the water may, under contract, give a share of the power to the other Government."

The maintenance of the dam was to be unilateral, if so constructed; joint maintenance, if jointly constructed. But if unilaterally constructed and later shared by the other Government, maintenance would then become joint (art. III).
(Treaty Series No. 30 (1926).)

3. THE RIVER GASH, UNITED KINGDOM AND ITALY, JUNE 12-15, 1925

The river Gash flows westward and northward from Italian Eritria into the Anglo-Egyptian Sudan where its unused waters become lost in the sands of the desert. It is a successive river. There are regions along the banks of the Gash in both Eritria and the Sudan of great fertility, but entirely dependent on the river for any productive agricultural development. Very little development had taken place in Eritria prior to this agreement. In the Sudan about 15,000 acres were under irrigation with waters from the Gash and, in addition, the floodwaters of the river served for flooding the areas used for wells, for grazing, and also for the cultivation of food crops by the natives. In Eritria the plain of Tessenet would require 65,000,000 cubic meters of water for the full development of its irrigable area of 20,000 hectares.

The agreement provides for the equal division of the waters of the Gash up to 130,000,000 cubic meters. The Sudan Government will pay for all waters used in excess of 65,000,000 cubic meters 20 percent of the sum received by it in respect of cultivation by irrigation of land in the Gash Delta in excess of a fixed sum of £50,000 annually. The Eritrian Government is to let pass all waters in excess of 65,000,000 cubic meters annually. This agreement results in the perpetuation of existing uses in both countries as well as making provision for their future extension. The experts' report attached to the agreements provides in part as follows:

"Since it would not be for the practical advantage of either territory to divide the very small supplies, we would leave the first 5 cubic meters per second at the complete disposal of Tessenet. The division of the supply from 5 up to 20 cubic meters per second should be made in such proportionately progressive manner that when 20 cubic meters per second is reached, the partition will be 10 cubic meters per second to each.

"The discharge above 20 cubic meters per second should be divided in equal parts until the discharge required for the irrigation of the plain of Tessenet is reached. Above that, the water will be passed freely below the barrage."

(Treaty Series No. 33 (1925).)

4. THE RIVER JUBA, GREAT BRITAIN AND ITALY, DECEMBER 24, 1915

When this treaty was entered into by Great Britain and Italy, the Juba was the boundary between Italian Somaliland and Kenya Colony. Since the World War, Great Britain has permitted Italy to move the Somaliland boundary farther south, with the result that the Juba today is no longer an international stream as between Kenya and Italian Somaliland. But for a period of several years the use of the waters of the Juba was subject to the provisions of this treaty. The region involved was relatively undeveloped, but dependent on irrigation for any and all crops.

The treaty provides for a permanent mixed commission to give effect to the agreements for the administration of the Juba and to study and present further regulations for the consideration of the two governments. Existing irrigation and other uses of the water to be registered with the commission and protected. Hydrographic records to be kept and both governments to promulgate identic laws and regulations governing diversions of water from the river. Provision is made for the acquisition of new rights to users of water through local and commission authority. Any applications of large new diversions to be carefully studied as to

their effect on navigation. The treaty contains, as well, regulations for customs transit across the river, conservation of the river's channel, and for navigation. Annex IV of the treaty provides:

The system of irrigation with ditches actually used by the natives on either bank of the stream should be maintained subject to the adequate protection of the river banks and waterhead works, which should be enforced without unnecessary severity toward the natives" (art. III).

And that:

The watering places of the Somalis are to be numbered and registered and the rights of the Somalis protected (art. IV).

And that:

It is advisable that irrigation works on a large scale should not be sanctioned without a careful investigation by the permanent commission, seeing that they are liable to curtail the annual period during which the river is navigable.

(Official Gazette of the East African Protectorate, June 7, 1916.)

5. **TIGRIS AND EUPHRATES: UPPER JORDAN AND YARMUK, GREAT BRITAIN AND FRANCE, DECEMBER 23, 1920**

This treaty, which is a general boundary convention, contains the provision that the British and French Governments will nominate an international commission to study any plan of irrigation contemplated in the French mandated territory (upper riparian), the execution of which would diminish in any considerable degree the waters of the Tigris and Euphrates at the point where they enter Mesopotamia (lower riparian) (art. 3). The dependence of all agriculture in Mesopotamia on irrigation from the Tigris and Euphrates is a matter of common knowledge. There is accordingly implied here the principle that the development of any new uses in the upper riparian state must take full cognizance of preexisting established uses in the lower.

The treaty further provides that experts nominated by the administrations of Syria and Palestine will study the question of the employment of the waters of the upper Jordan and Yarmuk and of their tributaries for the purposes of irrigation and the development of hydroelectric power. In this connection two principles are set up. The first establishes "the needs of the territories under the French mandate" (in part upper riparian and in part contiguous) as receiving prior satisfaction. Secondly the French Government is to give its representatives "the most liberal instructions for the employment of the surplus of these waters for the benefit of Palestine" (in part lower riparian and in part contiguous) (art. 8).

(Nouveau Recueil Général des Traités, 3me serie XII, 582.)

6. **LAKES HULEH AND TIBERIAS AND THE JORDAN RIVER, GREAT BRITAIN AND FRANCE, FEBRUARY 3, 1922**

This agreement, which was the outcome of the investigation authorized by the two Governments (December 23, 1920) on the upper Jordan and Yarmuk, makes provision for the construction of a dam by the Government of Palestine to raise the level of the lakes Huleh and Tiberias, the second of which is international. The principle of the priority of uses in the French mandated territory (in part upper riparian and in part contiguous) is reaffirmed in the following terms: "Any existing rights over the use of the waters of the Jordan by the inhabitants of Syria shall be maintained unimpaired."

(Martens, Nouveau Recueil Général des Traités, 3me serie, XVII, 213.)

7. **RIO GRANDE ABOVE FORT QUITMAN, UNITED STATES AND MEXICO, MAY 21, 1906**

This is a case of a river, entirely within the territory of one State, which at a certain point becomes a boundary stream. The agreement provides for the equitable distribution of the waters of the river from the point where it becomes an international boundary downstream for a river distance of about 150 miles.

In 1906, by a convention, the United States Government agreed to deliver to Mexico for use in the Juarez Valley, extending from El Paso to Fort Quitman, Tex., 60,000 acre-feet of water per year, which it was estimated would be suf-

ficient to irrigate all of the lands that previously had been irrigated by Mexico in that valley, and the Mexican Government waived any and all claims to the waters of the Rio Grande for any purpose whatever above Fort Quitman.

The waters thus supplied for use in Mexico originates in the United States and is controlled by the Elephant Butte Dam, which was built and is maintained and operated entirely at the expense of the United States. The Mexicans of the Juarez Valley are thus protected in benefits of Rio Grande water to the full extent to which these were enjoyed before upstream diversions and control works interfered with the flow of the river past their lands. But the use of Rio Grande waters in Mexico above Fort Quitman is definitely limited to 60,000 acre-feet per year, there being no provisions by which increased diversions may be made.

The material portions of the treaty are as follows:

"Article I

"After the completion of the proposed storage dam near Engle, New Mexico, and the distributing system auxiliary thereto, and as soon as water shall be available in said system for the purpose, the United States shall deliver to Mexico a total of 60,000 acre-feet of water annually, in the bed of the Rio Grande at the point where the head works of the Acequia Madre, known as the Old Mexican Canal, now exist above the city of Juarez, Mexico.

"Article II

"The delivery of the said amount of water shall be assured by the United States and shall be distributed through the year in the same proportions as the water supply proposed to be furnished from the said irrigation system to lands in the United States in the vicinity of El Paso, Texas, according to the following schedule, as nearly as may be possible: (Here follows the schedule).

"In case, however, of extraordinary drought or serious accident to the irrigation system in the United States, the amount delivered to the Mexican Canal shall be diminished in the same proportion as the water delivered to lands under said irrigation system in the United States.

"Article III

"The said delivery shall be made without cost to Mexico, and the United States agrees to pay the whole cost of storing the said quantity of water to be delivered to Mexico, of conveying the same to the international line, of measuring the said water, and of delivering it in the river bed above the head of the Mexican Canal. It is understood that the United States assumes no obligation beyond the delivering of the water in the bed of the river above the head of the Mexican Canal.

"Article IV

"The delivery of water as herein provided is not to be construed as a recognition by the United States of any claim on the part of Mexico to the said waters; and it is agreed that in consideration of such delivery of water, Mexico waives any and all claims to the waters of the Rio Grande for any purpose whatever between the head of the present Mexican Canal and Fort Quitman, Texas, and also declares fully settled and disposed of, and hereby waives, all claims heretofore asserted or existing, or that may hereafter arise, or be asserted, against the United States on account of any damages alleged to have been sustained by the owners of land in Mexico, by reason of the diversion by citizens of the United States of waters of the Rio Grande.

"Article V

"The United States, in entering into this treaty, does not thereby concede, expressly or by implication, any legal basis for any claims heretofore asserted or which may be hereafter asserted by reason of any losses incurred by the owners of land in Mexico due or alleged to be due to the diversion of the waters of the Rio Grande within the United States; nor does the United States in any way concede the establishment of any general principle or precedent by the concluding of this treaty. The understanding of both parties is that the arrangement contemplated by this treaty extends only to the portion of the Rio Grande which

forms the international boundary, from the head of the Mexican Canal down to Fort Quitman, Texas, and in no other case."

(39 Stat. 2953; Treaty Series No. 455, Malloy Treaties, I, 1202.)

3. MILK AND ST. MARY RIVERS, UNITED STATES AND GREAT BRITAIN, JANUARY 11, 1909

The comprehensive waterways convention between the United States and Canada of 1909 provided that each country had complete control of all water arising on and flowing from its territory into the other or into boundary waters. But uses of such waters already existing were recognized and ratified (art. II).

With respect to the Milk and St. Mary, two successive rivers, the convention provides that they are to be treated as one stream for the purposes of irrigation and power, and that the waters thereof shall be apportioned equally between the two countries (art. IV). The effect of this division was to adequately protect all uses existing at the time the convention was signed. Canada furnishes about one-fifth of the water of these two rivers, both of which originate within United States territory, but the equal division of the waters was probably a quid pro quo for the concession made to the United States of the right to carry water, diverted from the St. Mary into the Milk, along the 130 miles the Milk River travels within Canadian territory before recrossing the boundary back into the United States.

In a general provision with regard to boundary waters (art. VIII), as opposed to waters of successive streams, it was agreed that each country had equal right in the use of such waters. There was set up an order of precedence with regard to new uses, which might be developed under agreement of the two countries, as follows: (1) Domestic and sanitary purposes; (2) uses for navigation, including the service of canals for the purposes of navigation; (3) uses for power and for irrigation purposes. But the foregoing provisions were not to apply to or disturb any existing uses of boundary waters on either side of the boundary.

Articles II, VI, and VIII of this treaty read as follows:

"Article II

"Each of the High Contracting Parties reserves to itself or to the several State Governments on the one side and the Dominion or Provincial Governments on the other as the case may be, subject to any treaty provisions now existing with respect thereto, the exclusive jurisdiction and control over the use and diversion, whether temporary or permanent, of all waters on its own side of the line which in their natural channels would flow across the boundary or into boundary waters; but it is agreed that any interference with or diversion from their natural channel of such waters on either side of the boundary, resulting in any injury on the other side of the boundary, shall give rise to the same rights and entitle the injured parties to the same legal remedies as if such injury took place in the country where such diversion or interference occurs; but this provision shall not apply to cases already existing or to cases expressly covered by special agreement between the parties hereto.

"It is understood, however, that neither of the High Contracting Parties intends by the foregoing provision to surrender any right, which it may have, to object to any interference with or diversions of waters on the other side of the boundary the effect of which would be productive of material injury to the navigation interests on its own side of the boundary.

"Article VI

"The High Contracting Parties agree that the St. Mary and Milk Rivers and their tributaries (in the State of Montana and the Provinces of Alberta and Saskatchewan) are to be treated as one stream for the purposes of irrigation and power, and the waters thereof shall be apportioned equally between the two countries, but in making such equal apportionment more than half may be taken from one river and less than half from the other by either country so as to afford a more beneficial use to each. It is further agreed that in the division of such waters during the irrigation season, between the 1st of April and 31st of October, inclusive, annually, the United States is entitled to a prior appropriation of 500 cubic feet per second of the waters of the Milk River, or so much of such amount as constitutes three-fourths of its natural flow, and that Canada is entitled to a prior appropriation of 500 cubic feet per second of the flow of St.

Mary River, or so much of such amount as constitutes three-fourths of its natural flow.

"The channel of the Milk River in Canada may be used at the convenience of the United States for the conveyance, while passing through Canadian territory, of waters diverted from the St. Mary River. The Provisions of Article II of this treaty shall apply to any injury resulting to property in Canada from the conveyance of such waters through the Milk River.

"The measurement and apportionment of the water to be used by each country shall from time to time be made jointly by the properly constituted reclamation officers of the United States and the properly constituted irrigation officers of His Majesty under the direction of the International Joint Commission.

"Article VIII

"This International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Articles III and IV of this treaty the approval of this Commission is required, and in passing upon such cases the Commission shall be governed by the following rules or principles which are adopted by the High Contracting Parties for this purpose:

"The High Contracting Parties shall have, each on its own side of the boundary, equal and similar rights in the use of the waters hereinbefore defined as boundary waters."

"The following order of precedence shall be observed among the various uses enumerated hereinafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of precedence: (1) Uses for domestic and sanitary purposes; (2) uses for navigation, including the service of canals for the purposes of navigation; (3) uses for power and for irrigation purposes.

"The foregoing provisions shall not apply to or disturb any existing uses of boundary waters on either side of the boundary.

"The requirement for an equal division may in the discretion of the Commission be suspended in cases of temporary diversions along boundary waters at points where such equal division cannot be made advantageously on account of local conditions, and where such diversion does not diminish elsewhere the amount available for use on the other side.

"The Commission in its discretion may make its approval in any case conditional upon the construction of remedial or protective works to compensate so far as possible for the particular use or diversion proposed, and in such cases may require that suitable and adequate provision, approved by the Commission, be made for the protection and indemnity against injury of any interests on either side of the boundary.

"In cases involving the elevation of the natural level of waters on either side of the line as a result of the construction or maintenance on the other side of remedial or protective works or dams or other obstructions in boundary waters or in waters flowing therefrom or in waters below the boundary in rivers flowing across the boundary, the Commission shall require, as a condition of its approval thereof, that suitable and adequate provision, approved by it, be made for the protection and indemnity of all interests on the other side of the line which may be injured thereby.

"The majority of the Commissioners shall have power to render a decision. In case the Commission is evenly divided upon any question or matter presented to it for decision, separate reports shall be made by the Commissioners on each side to their own Government. The High Contracting Parties shall thereupon endeavor to agree upon an adjustment of the question or matter of difference, and if an agreement is reached between them, it shall be reduced to writing in the form of a protocol, and shall be communicated to the Commissioners, who shall take such further proceedings as may be necessary to carry out such agreement."

The general provisions applying to all uses of boundary waters on the Canadian frontier are equally applicable to uses for hydraulic power. One article, however, deals exclusively with the hydroelectric power plants on the Niagara River (art. V). It was here the purpose of the High Contracting Parties to limit the diversions from the Niagara River so that the level of Lake Erie and the flow of the stream might not be appreciably affected. In the accomplishment of this object it was the expressed desire of the two countries to cause the least

possible injury to investments which had already been made in the construction of power plants, under proper authority, on both sides of the river. It was accordingly provided that daily diversions of water of the Niagara River on the United States side for power purposes should be limited to 20,000 cubic feet per second, while on the Canadian side the limit was set at 86,000 cubic feet of water per second.

This original division of the waters of a boundary stream for power purposes was apparently based on no other consideration than that of the extent of the diversions that had been licensed and undertaken in each State at the time of the signing of the treaty.

(36 Stat. 2448; Treaty Series No. 548.)

9. THE TARTARO RIVER

We have a record of the distribution of the waters of this river extending over a period of 224 years. Today the Tartaro is entirely within the jurisdiction of Italy, but before the unification of that country it was partially in Venice and partially in Mantua. It is difficult to ascertain to what extent the Tartaro was a boundary stream and to what extent it was of a successive nature, but that its waters were used for the cultivation of rice in both states is a well-established fact.

The seven treaties covering the use of the waters of the Tartaro during these years are of the following dates: March 15, 1549; November 16, 1599; April 20, 1752; June 9, 1753; June 25, 1765; November 1, 1764; and June 19, 1765.

The treaty of 1549 appears to have been an international substantiation of the titles to water previously granted to their subjects by the two states concerned and contains provisions regulating the nature and operation of the various private diversion structures along the river, all for the avowed purpose of removing disputes. The treaty of 1599 sought to secure the actual execution of capitulations concluded in 1548 as well as the removal of "such innovations as may have been made since the said capitulations to the detriment and injury of the common subjects" by the appointment of commissioners.

In the middle of the eighteenth century, controversies among the water users along the Tartaro became again acute and a new treaty was undertaken (April 20, 1752). It was found that the conditions of things had changed and that "the quantity of the aforesaid waters was considerably less than that granted at various times to the respective subjects and substantiated in their titles." A committee of experts under orders of the commission prepared a report on the practicable means of increasing the waters of the Tartaro and preventing accidental or arbitrary diversions, so as to obtain a large volume for equitable assignments to the use of each party. The number of rice fields that were to be irrigated with the waters of the Tartaro was set by the experts at 6,040 and a proportional distribution was made to the various riparian owners (art. I), based apparently on their historic titles as recorded in the earlier treaties. It was then provided that the titles belonging to both the Veronese and Mantuans should be understood as permanent and invariably reduced by law and general rule to the respective total of uses as set forth in the distribution (art. II). No further concessions were to be made of the waters of the Tartaro and its affluents (art. III); further provisions dealt with the construction of works, rectification of portions of the stream, and regulation of the use of the water.

The later treaties contained slight modifications of the provisions of the treaty of 1752 as to diversion structures, provisions for their regular inspection, and regulations for the improvement and maintenance of the channel of the Tartaro and its tributaries.

The seven treaties on the Tartaro are quite voluminous and make up a large file but the very local nature of their provisions together with the lack of information with regard to their political background, renders the deduction of general principles from their provisions both difficult and questionable, other than that the international settlement of the division of these waters was apparently based primarily on consideration of private title.

10. BOUNDARY STREAM, FRANCE AND SPAIN, MAY 26, 1866, AND JULY 11, 1868

There are a number of irrigated areas in the Pyrennes in both France and Spain. The boundary treaty of 1866 between these two countries sought to set up a régime for the enjoyment of such boundary waters as were used by citizens of both countries.

On both successive and contiguous streams each Government recognized, subject to a joint verification, the legality of irrigations, factories, and usufructs for domestic uses then existing in the other state, by virtue of concession, title, or prescription, with the reservation that only the water necessary to satisfy real needs should be used, that abuses were to be suppressed, and that such recognition should not affect the respective rights of the Governments to authorize works of public utility on condition of legitimate indemnities (art. IX). If having satisfied the real needs of the uses respectively recognized by both parties as regular, some water remained available at low water crossing the frontier, it was to be divided in advance between the two countries in proportion to the extent of irrigable land belonging to the respective immediate riparian owners, deducting the lands already irrigated (art. X).

Articles IX and X read as follows:

"Article IX

"For streams which pass from one country to the other or which serve as frontier, each Government recognizes, subject to making a joint verification, when it shall be useful, the legality of irrigations, factories and usufructs for domestic uses now existing in the other States, by virtue of concession, title or by prescription, with the reservation that only the water necessary to satisfy real needs shall be used, that abuses must be suppressed, and that such recognition shall not affect the respective rights of the Governments to authorize works of public utility on condition of legitimate indemnities.

"Article X

"If, after having satisfied the real needs of the uses respectively recognized by both parties as regular, some water remains available at low water in crossing the frontier, it shall be divided in advance between the two countries in proportion to the extent of irrigable land belonging to the respective immediate riparian owners, deducting the lands already irrigated."

An international commission of engineers was to be set up to carry out hydrographic studies and to carry out the construction of certain works, as well as general duties of inspection along the streams. (Art. XVIII).

The final act of July 11, 1868, carries the results of the engineers' preliminary work and contains the specific regime of the boundary streams to be followed, described in minute detail. All important diversions and diversion structures on the several rivers are described and regulated. Provision is made for obtaining strict observance of all regulations and the cooperation of authorities on both sides of the boundary.

(Hertslet, III, 1647; British and Foreign State Papers, LVI, 212, et seq. British and Foreign State Papers, LIX, 454 et seq.)

11. RIVER ROYA AND AFFLUENTS, FRANCE AND ITALY, DECEMBER 17, 1914

The Roya and its affluents cross and recross the Franco-Italian frontier and at certain places form the international boundary. A treaty with regard to the utilization of the waters of this river provides that future hydropower projects in one country must not perceptibly change the regime of the Roya or its tributaries as it passes into the other country (art. I).

Where a stream forms the boundary line between the countries, each is acknowledged to have equal rights to the hydropower of the stream and each agrees not to use this right so as to prevent the other from a similar use, without previous consent of the other (art. II). To facilitate the best use of the power of the main river, where it forms the boundary, the two countries agree to leave the entire use of the water, to the French bank of the stream, between certain points, and the entire use, to the Italian bank, between certain other points.

An international commission is to administer the agreement in a limited way (art. II).

The following boundary treaties, in addition to those outlined above, contain a provision at the place indicated, providing for, or clearly implying, the recognition of consumptive uses of international waters existing at the time the agreement was undertaken. Some clearly involve waters for domestic and sanitary purposes only, while others make specific mention of uses for irrigation and power. An accurate evaluation of the relative significance of such treaties

would require the accumulation of physical data with reference to each individual case. It is generally true, however, that the absence of provisions describing set quantities of water may rightly lead one to the conclusion that the quantities involved are not usually great.

1. Austria and Russia, May 3, 1815, art. 23, Hertslet, I, 100.
2. Prussia and Russia, May 3, 1815, art. 21, *Ibid.*, I, 111.
3. Sardinia, Swiss Confederation, Geneva, March 16, 1816, art. 15, Hertslet, I, 430.
4. Galicia (Austrian Empire) and Russia, July 10, 1829, art. 4, Neumann's Comp. of A. T., IV, 258.
5. Prussia and Russia, March 4, 1835, art. 49, B. F. S. P., XXIII, 293.
6. Belgium and Luxemburg, August 8, 1843, art. 30, *Recueil des Traités*, Belgium, I, 344-46.
7. Netherlands and Belgium, August 8, 1843, art. 36, B. S. E. P., XXXV, 1202.
8. Luca, Modena, Tuscany, Austria and Sardinia, November 28, 1844, art. 4, Hertslet, II, 1051.
9. Bohemia and Saxony, October 12, 1846, art. 6, Neumann, V, 56-60.
10. Spain and Portugal, September 29, 1862, art. 26, B. F. S. P., LXII, 941.
11. Spain and Portugal, November 4, 1866, Trans. art., *Ibid.*, LXII, 952.
12. Sweden and Norway, October 26, 1905, art. 1, *Ibid.*, XCVIII.
13. Allies and Germany, June 28, 1919, art. 258, Malloy, III, 3329.
14. Allies and Austria, September 10, 1919, art. 309, Malloy, III, 3149.
15. Allies and Hungary, June 4, 1920, art. 292, Malloy, III, 3539.
16. Allies and Turkey, August 10, 1920, art. 363, Malloy, III.
17. Denmark and Germany, April 10, 1922, art. 17, L. N. T. S. No. 274.
18. Germany and Poland, May 15, 1922, art. 344, B. F. S. P., CXVIII, 367.
19. Hungary and Rumania, April 14, 1924, arts. 2 and 3, L. N. T. S., No. 113.
20. France and Germany, August 14, 1925, arts. 13 and 14, 75 L. N. T. S., 264.
21. Germany and Poland, August 19, 1926, art. 2, L. N. T. S.
22. France and Saar, November 13, 1926, art. 20, 77 L. N. T. S., 238.
23. Germany and Saar, November 13, 1926, art. 2, 77 L. N. T. S., 242.
24. Germany and Poland, February 16, 1927, art. 4, 71 L. N. T. S., 381.
25. Germany and Lithuania, January 29, 1928, art. 15, L. N. T. S. No. 2027.
26. Hungary and Czechoslovakia, November 14, 1928, arts. 17, 25, 110 L. N. T. S., 427.
27. Great Britain and France: Notes as to Gold Coast and Sudan, March 18/April 25, 1904, art. 3, Hertslet, Africa, II, 822, 23, 26.
28. Great Britain and France: Notes as to Gold Coast and Ivory Coast, May 11/15, 1905, art. 4, Hertslet, Africa, II, 832, 41.
29. Great Britain and France: Notes as to Southern Nigeria and Dahomey, October 19, 1906, art. 3, *Ibid.*, II, 849, 50, 61.
30. Argentina and Uruguay, January 5, 1910, art. 3, Martens, 3me serie, VI, 876.

EXHIBIT 2. EXCERPTS FROM VARIOUS TREATIES AND ACTS OF CONGRESS BEARING ON THE JURISDICTION OF THE INTERNATIONAL BOUNDARY COMMISSION AND THE UNITED STATES SECTION THEREOF

Exhibit 2 (a). Convention between the United States of America and the United States of Mexico to facilitate the carrying out of the principles contained in the treaty of November 12, 1884, and to avoid the difficulties occasioned by reason of the changes which take place in the beds of the Rio Grande and the Colorado Rivers

Signed at Washington March 1, 1889; ratification advised May 7, 1890; ratified by the President of Mexico, October 31, 1889; ratified by the President of the United States December 6, 1890; ratifications exchanged December 24, 1890; proclaimed December 26, 1890.

[Extract]

ARTICLE I

All differences or questions that may arise on that portion of the frontier between the United States of America and the United States of Mexico where the Rio Grande and the Colorado Rivers form the boundary line, whether such differences or questions grow out of alterations or changes in the bed of the

aforesaid Rio Grande and that of the aforesaid Colorado River or of works that may be constructed in said rivers, or of any other cause affecting the boundary line, shall be submitted for examination and decision to an International Boundary Commission which shall have exclusive jurisdiction in the case of said differences or questions.

ARTICLE II

The International Boundary Commission shall be composed of a Commissioner appointed by the President of the United States of America, and of another appointed by the President of the United States of Mexico, in accordance with the constitutional provisions of each country, of a Consulting Engineer, appointed in the same manner by each Government, and of such Secretaries and Interpreters as either Government may see fit to add to its Commission. Each Government separately shall fix the salaries and emoluments of the members of its Commission.

ARTICLE III

The International Boundary Commission shall not transact any business unless both Commissioners are present. It shall sit on the frontier of the two contracting countries, and shall establish itself at such places as it may determine upon; it shall, however, repair to places at which any of the difficulties or questions mentioned in this convention may arise, as soon as it shall have been duly notified thereof.

ARTICLE IV

When owing to natural causes, any change shall take place in the bed of the Rio Grande or in that of the Colorado River, in that portion thereof wherein those rivers form the boundary line between the two countries, which may affect the boundary line, notice of that fact shall be given by the proper local authorities on both sides to their respective Commissioners of the International Boundary Commission, on receiving which notice it shall be the duty of the said Commission to repair to the place where the change has taken place or the question has arisen, to make a personal examination of such change, to compare it with the bed of the river as it was before the change took place, as shown by the surveys, and to decide whether it has occurred through avulsion or erosion, for the effects of Articles I and II of the convention of November 12th, 1884; having done this, it shall make suitable annotations on the surveys of the boundary line.

ARTICLE V

Whenever the local authorities on any point of the frontier between the United States of America and the United States of Mexico, in that portion in which the Rio Grande and the Colorado River form the boundary between the two countries, shall think that works are being constructed, in either of those rivers, such as are prohibited by Article III of the convention of November 12, 1884, or by Article VII of the Treaty of Guadalupe Hidalgo of February 2, 1848, they shall so notify their respective Commissioners, in order that the latter may at once submit the matter to the International Boundary Commission, and that said Commission may proceed, in accordance with the provisions of the foregoing article, to examine the case, and that it may decide whether the work is among the number of those which are permitted, or of those which are prohibited by the stipulations of those treaties.

The Commission may provisionally suspend the construction of the works in question pending the investigation of the matter, and if it shall fail to agree on this point, the works shall be suspended at the instance of one of the two Governments.

ARTICLE VI

In either of these cases, the Commission shall make a personal examination of the matter which occasions the change, the question or the complaint, and shall give its decision in regard to the same, in doing which it shall comply with the requirements established by a body of regulations to be prepared by the said Commission and approved by both Governments.

ARTICLE VII

The International Boundary Commission shall have power to call for papers and information, and it shall be the duty of the authorities of each of the two countries to send it any papers that it may call for relating to any boundary question in which it may have jurisdiction in pursuance of this convention.

The said Commission shall have power to summon any witnesses whose testimony it may think proper to take, and it shall be the duty of all persons thus summoned to appear before the same and to give their testimony, which shall be taken in accordance with such by-laws and regulations as may be adopted by the Commission and approved by both Governments. In case of the refusal of a witness to appear, he shall be compelled to do so, and to this end the Commission may make use of the same means that are used by the courts of the respective countries to compel the attendance of witnesses in conformity with their respective laws.

ARTICLE VIII

If both Commissioners shall agree to a decision, their judgment shall be considered binding upon both Governments unless one of them shall disapprove it within one month reckoned from the day on which it shall have been pronounced. In the latter case both Governments shall take cognizance of the matter and shall decide it amicably, bearing constantly in mind the stipulation of Article XXI of the treaty of Guadalupe Hidalgo of February 2, 1848.

The same shall be the case when the Commissioners shall fail to agree concerning the point which occasions the question, the complaint, or the change, in which case each Commissioner shall prepare a report in writing, which he shall lay before his Government.

ARTICLE IX

* * * * *

(Relates to ratification.)

Exhibit 2 (b). Convention between the United States and Mexico for the elimination of the Bancos in the Rio Grande from the effects of article II of the treaty of November 12, 1884

Signed at Washington March 20, 1905

[Extract]

PREAMBLE

* * * * *

Whereas for the purpose of obviating the difficulties arising from the application of Article V of the Treaty of Guadalupe-Hidalgo, dated February 2, 1848, and Article I of the Treaty of December 30, 1853, both concluded between the United States of America and Mexico—difficulties growing out of the frequent changes to which the beds of the Rio Grande and Colorado River are subject—there was signed in Washington on November 12, 1884, by the Plenipotentiaries of the United States and Mexico, a convention containing the following stipulations:

ARTICLE I. The dividing line shall forever be that described in the aforesaid Treaty and follow the center of the normal channel of the rivers named, notwithstanding any alterations in the banks or in the course of those rivers, provided that such alterations be effected by natural causes through the slow and gradual erosion and deposit of alluvium and not by the abandonment of an existing river bed and the opening of a new one.

ARTICLE II. Any other change, wrought by the force of the current, whether by the cutting of a new bed, or when there is more than one channel by the deepening of another channel than that which marked the boundary at the time of the survey made under the aforesaid treaty, shall produce no change in the dividing line as fixed by the surveys of the International Boundary Commission in 1852, but the line then fixed shall continue to follow the middle of the original channel bed, even though this should become wholly dry or be obstructed by deposits.

Whereas, as a result of the topographical labors of the Boundary Commission created by the Convention of March 1, 1889, it has been observed that there is a typical class of changes effected in the bed of the Rio Grande, in which, owing to slow and gradual erosion, coupled with avulsion, said river abandons its old channel and there are separated from it small portions of land known as "bancos" bounded by the said old bed, and which, according to the terms of Article II of the aforementioned Convention of 1884, remain subject to the dominion and jurisdiction of the country from which they have been separated;

Whereas said "bancos" are left at a distance from the new river bed, and, by reason of the successive deposits of alluvium, the old channel is becoming effaced, and the land of said "bancos" becomes confused with the land of the "bancos" contiguous thereto, thus giving rise to difficulties and controversies, some of an international and others of a private character;

Whereas the labors of the International Boundary Commission, undertaken with the object of fixing the boundary line with reference to the "bancos," have demonstrated that the application to these "bancos" of the principle established in Article II of the Convention of 1884 renders difficult the solution of the controversies mentioned, and, instead of simplifying, complicates the said boundary line between the two countries;

* * * * *

ARTICLE I

The fifty-eight (58) bancos surveyed and described in the report of the consulting engineers, dated May 30, 1898, to which reference is made in the record of proceedings of the International Boundary Commission, dated June 14, 1898, and which are drawn on fifty-four (54) maps on a scale of one to five thousand (1 to 5,000), and three index maps, signed by the Commissioners and by the Plenipotentiaries appointed by the convention, are hereby eliminated from the effects of Article II of the Treaty of November 12, 1884.

Within the part of the Rio Grande comprised between its mouth and its confluence with the San Juan River the boundary line between the two countries shall be the broken red line shown on the said maps—that is, it shall follow the deepest channel of the stream—and the dominion and jurisdiction of so many of the aforesaid fifty-eight (58) bancos as may remain on the right bank of the river shall pass to Mexico, and the dominion and jurisdiction of those of the said fifty-eight (58) bancos which may remain on the left bank shall pass to the United States of America.

ARTICLE II

The International Commission shall, in the future, be guided by the principle of elimination of the bancos established in the foregoing article, with regard to the labors concerning the boundary line throughout that part of the Rio Grande and the Colorado River which serves as a boundary between the two nations. There are hereby excepted from this provision the portions of land segregated by the change in the bed of the said rivers having an area of over two hundred and fifty (250) hectares, or a population of over two hundred (200) souls, and which shall not be considered as bancos for the purposes of this treaty and shall not be eliminated, the old bed of the river remaining, therefore, the boundary in such cases.

ARTICLE III

With regard to the bancos which may be formed in future, as well as those already formed but which are not yet surveyed, the Boundary Commission shall proceed to the places where they have been formed, for the purpose of duly applying Articles I and II of the present convention, and the proper maps shall be prepared in which the changes that have occurred shall be shown, in a manner similar to that employed in the preparation of the maps of the aforementioned fifty-eight (58) bancos.

As regards these bancos, as well as those already formed but not surveyed, and those that may be formed in future, the Commission shall mark on the ground, with suitable monuments, the bed abandoned by the river, so that the boundaries of the bancos shall be clearly defined.

On all separated land on which the successive alluvium deposits have caused to disappear those parts of the abandoned channel which are adjacent to the

river; each of the extremities of said channel shall be united by means of a straight line to the nearest part of the bank of the same river.

ARTICLE IV

The citizens of either of the two contracting countries who, by virtue of the stipulations of this convention, shall in future be located on the land of the other may remain thereon or remove at any time to whatever place may suit them, and either keep the property, which they possess in said territory or dispose of it. Those who prefer to remain on the eliminated bancos may either preserve the title and rights of citizenship of the country to which the said bancos formerly belonged, or acquire the nationality of the country to which they will belong in the future.

Property of all kinds situated on the said bancos shall be inviolably respected, and its present owners, their heirs, and those who may subsequently acquire the property legally, shall enjoy as complete security with respect thereto as if it belonged to citizens of the country where it is situated.

Exhibit 2 (c). Convention for the rectification of the Rio Grande in the El Paso-Juarez Valley

Signed at Mexico City, February 1, 1933.

[Extract]

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

* * * * *

The United States of America and the United Mexican States having taken into consideration the studies and engineering plans carried on by the International Boundary Commission, and specially directed to relieve the towns and agricultural lands located within the El Paso-Juarez Valley from flood dangers, and securing at the same time the stabilization of the international boundary line, which, owing to the present meandering nature of the river it has not been possible to hold within the mean line of its channel; and fully conscious of the great importance involved in this matter, both from a local point of view as well as from a good international understanding, have resolved to undertake, in common agreement and cooperation, the necessary works as provided in Minute 129 (dated July 31, 1930) of the International Boundary Commission, approved by the two Governments in the manner provided by treaty; * * *

The Government of the United States of America and the Government of the United Mexican States have agreed to carry out the Rio Grande rectification works provided for in Minute 129 of the International Boundary Commission and annexes thereto, approved by both Governments, in that part of the river beginning at the point of intersection of the present river channel with the located line as shown in map, exhibit No. 2 of Minute 129 of said Commission (said intersection being south of Monument 15 of the boundary polygon of Córdoba Island) and ending at Box Canyon.

The terms of this Convention and of Minute 129 shall apply exclusively to river rectification within the limits above set out.

The two Governments shall study such further minutes and regulations as may be submitted by the International Boundary Commission and, finding them acceptable, shall approve same in order to carry out the material execution of the works in accordance with the terms of this Convention. The works shall be begun after this Convention becomes effective.

II

* * * * *

III

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IV

The direction and inspection of the works shall be under the International Boundary Commission, each Government employing for the construction of that portion of the work it undertakes, the agency that in accordance with its administrative organization should carry on the work.

V

The International Boundary Commission shall survey the ground to be used as the right-of-way to be occupied by the rectified channel, as well as the parts to be cut from both sides of said channel. Within thirty days after a cut has been made, it shall mark the boundaries on the ground, there being a strict superficial compensation in total of the areas taken from each country. Once the corresponding maps have been prepared, the Commission shall eliminate these areas from the provisions of Article II of the Convention of November 12, 1884, in similar manner to that adopted in the Convention of March 20, 1905, for the elimination of bancos.

VI

For the sole purpose of equalizing areas, the axis of the rectified channel shall be the international boundary line. The parcels of land that, as a result of these cuts or of merely taking the new axis of the channel as the boundary line, shall remain on the American side of the axis of the rectified channel shall be the territory and property of the United States of America, and the territory and property of the United Mexican States those on the opposite side, each Government mutually surrendering in favor of the other the acquired rights over such parcels.

In the completed rectified river channel—both in its normal and constructed sections—and in any completed portion thereof, the permanent international boundary shall be the middle of the deepest channel of the river within such rectified river channel.

VII

Lands within the rectified channel, as well as those which, upon segregation, pass from the territory of one country to that of the other, shall be acquired in full ownership by the Government in whose territory said lands are at the present time; and the lands passing as provided in Article V hereof, from one country to the other, shall pass to each Government respectively in absolute sovereignty and ownership, and without encumbrance of any kind, and without private national titles.

VIII

The construction of works shall not confer on the contracting parties any property rights in or any jurisdiction over the territory of the other. The completed work shall constitute part of the territory and shall be the property of the country within which it lies.

Each Government shall, respectively, secure title, control, and jurisdiction of its half of the flood channel, from the axis of that channel to the outer edge of the acquired right-of-way on its own side, as this channel is described and mapped in the International Boundary Commission Minute number 129, and the maps, plans, and specifications attached thereto, which Minute, maps, plans, and specifications are attached hereto and made a part of this Convention. Each Government shall permanently retain full title, control, and jurisdiction of that part of the flood channel constructed as described, from the deepest channel of the running water in the rectified channel to the outer edge of such acquired right-of-way.

IX

Construction shall be suspended upon request of either Government, if it be proved that the works are being constructed outside of the conditions herein stipulated or fixed in the approved plan.

X

In the event there be presented private or national claims for the construction or maintenance of the rectified channel, or for causes connected with the works

of rectification, each Government shall assume and adjust such claims as arises within its own territory.

XI

The International Boundary Commission is charged hereafter with the maintenance and preservation of the rectified channel. To this end the Commission shall submit, for the approval of both Governments, the regulations that should be issued to make effective said maintenance.

XII

Both Governments bind themselves to exempt from important duties all materials, implements, equipment, and supplies intended for the works, and passing from one country to the other.

XIII

* * * * *

XIV

* * * * *
[SEAL] J. REUBEN CLARK, Jr.
[SEAL] PUIG.

Exhibit 2 (d)

[PUBLIC RESOLUTION—No. 62—69TH CONGRESS]

[H. J. Res. 345]

JOINT RESOLUTION Amending the Act of May 13, 1924, entitled "An Act providing a study regarding the equitable use of the waters of the Rio Grande," and so forth

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act of May 13, 1924, entitled "An Act providing for a study regarding the equitable use of the waters of the Rio Grande below Fort Quitman, Texas, in cooperation with the United States of Mexico," is hereby amended to read as follows:

"That the President is hereby authorized to designate three special commissioners to cooperate with representatives of the Government of Mexico in a study regarding the equitable use of the waters of the lower Rio Grande and of the lower Colorado Rivers, for the purpose of securing information on which to base a treaty with the Government of Mexico relative to the use of the waters of these rivers. One of the commissioners so appointed shall be an engineer experienced in such work. Upon completion of such study the results shall be reported to Congress. The Commissioner may also, with the concurrence of Mexico, make a study of the Tia Juana River, with the view of having a treaty governing the use of its water.

"SEC. 2. There is hereby authorized to be appropriated out of any moneys in the Treasury not otherwise appropriated such amounts not to exceed \$50,000 as may be necessary for carrying out the provisions hereof."

Approved, March 3, 1927.

Exhibit 2 (e)

Act of June 30, 1932 (The Economy Act), 47 Stat. 417, sec. 510

INTERNATIONAL WATER COMMISSION ABOLISHED

[Extract]

SEC. 510. The International Water Commission, United States and Mexico, American Section, is hereby abolished. The powers, duties, and functions of such section of such commission shall be exercised by the International Boundary Commission, United States and Mexico, American Section. This section shall take effect July 1, 1932.

Exhibit 2 (f)

ACT OF AUGUST 19, 1935

AN ACT To amend the Act of May 13, 1924, entitled "An Act providing for a study regarding the equitable use of the waters of the Rio Grande," and so forth, as amended by the public resolution of March 3, 1927

(H. R. 6453, Public, No. 286, 49 Stat., pt. 1, p. 660)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act of May 13, 1924, entitled "An Act providing for a study regarding the equitable use of the waters of the Rio Grande below Fort Quitman, Texas, in cooperation with the United States of Mexico," as amended by the public resolution of March 3, 1927, is hereby amended to read as follows:

"The President is hereby authorized to designate the American Commissioner on the International Boundary Commission, United States and Mexico, or other Federal agency, to cooperate with a representative or representatives of the Government of Mexico in a study regarding the equitable use of the waters of the lower Rio Grande and the lower Colorado and Tia Juana Rivers, for the purpose of obtaining information which may be used as a basis for the negotiation of a treaty with the Government of Mexico relative to the use of the waters of these rivers and to matters closely related thereto. On completion of such study the results shall be reported to the Secretary of State.

"Sec. 2. The Secretary of State, acting through the American Commissioner, International Boundary Commission, United States and Mexico, is further authorized to conduct technical and other investigations relating to the defining, demarcation, fencing, or monumentation of the land and water boundary between the United States and Mexico, to flood control, water resources, conservation, and utilization of water, sanitation and prevention of pollution, channel rectification, and stabilization and other related matters upon the international boundary between the United States and Mexico; and to construct and maintain fences, monuments, and other demarcations of the boundary line between the United States and Mexico, and sewer systems, water systems, and electric light, power, and gas systems crossing the international border, and to continue such work and operations through the American Commissioner as are now in progress and are authorized by law.

"The President is authorized and empowered to construct, operate, and maintain on the Rio Grande River below Fort Quitman, Texas, any and all works or projects which are recommended to the President as the result of such investigations and by the President are deemed necessary and proper.

"Sec. 3. (a) The President is further authorized to construct any project or works which may be provided for in a treaty entered into with Mexico and to repair, protect, maintain, or complete works now existing or now under construction or those that may be constructed under the treaty provisions aforesaid; and to construct any project or works designed to facilitate compliance with the provision of treaties between the United States and Mexico; and (b) to operate and maintain any project or works so constructed or, subject to such rules and regulations for continuing supervision by the said American Commissioner or any Federal Agency as the President may cause to be promulgated, to turn over the operation and maintenance of such project or works to any Federal agency, or any State, county, municipality, district, or other political subdivision within which such project or works may be in whole or in part situated, upon such terms, conditions, and requirements as the President may deem appropriate."

Exhibit 2 (g)

Interior Department Appropriation Act, 1942, approved June 28, 1941

[Extract]

VALLEY GRAVITY CANAL AND STORAGE PROJECT, TEXAS

Valley Gravity Canal and Storage Project, Texas: For the completion of investigations and commencement of construction of the Valley Gravity Canal and Storage Project, Texas, in substantial compliance with the engineering plan described in a report dated February 3, 1940, entitled "Report of Conference of

Engineers to the American Commissioner, International Boundary Commission, United States and Mexico, on the Valley Gravity Canal and Storage Project (Federal Project Numbered 5)" and report appended thereto, \$2,500,000, to be immediately available and to remain available until expended: *Provided*, That said sum shall be available to the President for allocation in accordance with the Act entitled "An Act to amend the Act of May 13, 1924, entitled 'An Act providing for a study regarding the equitable use of the waters of the Rio Grande,' and so forth, as amended by the public resolution of March 3, 1927," approved August 19, 1935: *Provided further*, That from said sum expenditures may be made for personal services in the District of Columbia (not exceeding \$15,000), and in the field, for the payment of fees for professional services, including experts, engineers, and attorneys, and for all other objects of expenditure as specified for projects hereinbefore in this Act under the caption "Bureau of Reclamation," under the headings "Salaries and expenses" and "Administrative provisions and limitations," but without regard to the amounts of the limitations therein set forth: *Provided further*, That of said sum, \$250,000 shall, upon approval by the President of an allocation therefor, be available to the Secretary of State (acting through the American Commissioner of the International Boundary Commission, United States and Mexico) for continuing the investigations authorized by such Act of August 19, 1935: *Provided, further*, That the Secretary of State, with the approval of the President, shall designate the features of the project which he deems international in character and shall direct such changes in the general project plan as he deems advisable with respect to such features; and the features so designated shall be built, after consultation with the Bureau of Reclamation as to general design, by the American section of the International Boundary Commission, United States and Mexico, and shall be operated and maintained by said Commission insofar as their operation and maintenance in such manner is, in the opinion of the Secretary of State, necessary because of their international character. * * *

EXHIBIT 3. COLORADO RIVER COMPACT, SIGNED AT SANTA FE, N. MEX.,
NOVEMBER 24, 1922

[Extract]

ARTICLE I. The major purposes of this compact are to provide for the equitable division and apportionment of the use of the waters of the Colorado River system; to establish the relative importance of different beneficial uses of water; to promote interstate comity; to remove causes of present and future controversies and to secure the expeditious agricultural and industrial development of the Colorado River Basin, the storage of its waters, and the protection of life and property from floods. To these ends the Colorado River Basin is divided into two basins and an apportionment of the use of part of the water of the Colorado River system is made to each of them with the provision that further equitable apportionments may be made.

ART. II. As used in this compact—

(a) The term "Colorado River system" means that portion of the Colorado River and its tributaries within the United States of America.

(b) The term "Colorado River Basin" means all of the drainage area of the Colorado River system and all other territory within the United States of America to which the waters of the Colorado River system shall be beneficially applied.

(c) The term "States of the upper division" means the States of Colorado, New Mexico, Utah, and Wyoming.

(d) The term "States of the lower division" means the States of Arizona, California, and Nevada.

(e) The term "Lee Ferry" means a point in the main stream of the Colorado River 1 mile below the mouth of the Paria River.

(f) The term "Upper Basin" means those parts of the States of Arizona, Colorado, New Mexico, Utah, and Wyoming within and from which waters naturally drain into the Colorado River system above Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River system which are now or shall hereafter be beneficially served by waters diverted from the system above Lee Ferry.

(g) The term "Lower Basin" means those parts of the States of Arizona, California, Nevada, New Mexico, and Utah within and from which waters natur-

ally drain into the Colorado River system below Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River system which are now or shall hereafter be beneficially served by waters diverted from the system below Lee Ferry.

(h) The term "domestic use" shall include the use of water for household, stock, municipal, mining, milling, industrial, and other like purposes, but shall exclude the generation of electrical power.

ART. III. (a) There is hereby apportioned from the Colorado River system in perpetuity to the upper basin and to the lower basin, respectively, the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum, which shall include all water necessary for the supply of any rights which may now exist.

(b) In addition to the apportionment in paragraph (a), the lower basin is hereby given the right to increase its beneficial consumptive use of such waters by 1,000,000 acre-feet per annum.

(c) If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b); and if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the upper basin and the lower basin, and whenever necessary the States of the upper division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d).

(d) The States of the upper division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of 10 consecutive years reckoned in continuing progressive series beginning with the first day of October next succeeding the ratification of this compact.

(e) The States of the upper division shall not withhold water, and the States of the lower division shall not require the delivery of water, which cannot reasonably be applied to domestic and agricultural uses.

(f) Further equitable apportionment of the beneficial uses of the waters of the Colorado River system unapportioned by paragraphs (a), (b), and (c) may be made in the manner provided in paragraph (g) at any time after October 1, 1963, if and when either basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b).

(g) In the event of a desire for a further apportionment as provided in paragraph (f), any two signatory States, acting through their governors, may give joint notice of such desire to the governors of the other signatory States and to the President of the United States of America, and it shall be the duty of the governors of the signatory States and of the President of the United States of America forthwith to appoint representatives, whose duty it shall be to divide and apportion equitably between the upper basin and lower basin the beneficial use of the unapportioned water of the Colorado River system as mentioned in paragraph (f), subject to the legislative ratification of the signatory States and the Congress of the United States of America.

ART. IV. (a) Inasmuch as the Colorado River has ceased to be navigable for commerce and the reservation of its waters for navigation would seriously limit the development of its basin, the use of its waters for purposes of navigation shall be subservient to the uses of such waters for domestic, agricultural, and power purposes. If the Congress shall not consent to this paragraph, the other provisions of this compact shall nevertheless remain binding.

(b) Subject to the provisions of this compact, water of the Colorado River system may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes.

(c) The provisions of this article shall not apply to or interfere with the regulation and control by any State within its boundaries of the appropriation, use, and distribution of water.

* * * * *

EXHIBIT 4. BOULDER CANYON PROJECT ACT

[PUBLIC—No. 642—70TH CONGRESS]

[H. R. 5773]

[Extract]

AN ACT To provide for the construction of works for the protection and development of the Colorado River Basin, for the approval of the Colorado River compact, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters thereof for reclamation of public lands and other beneficial uses exclusively within the United States, and for the generation of electrical energy as a means of making the project herein authorized a self-supporting and financially solvent undertaking, the Secretary of the Interior, subject to the terms of the Colorado River compact hereinafter mentioned, is hereby authorized to construct, operate, and maintain a dam and incidental works in the main stream of the Colorado River at Black Canyon or Boulder Canyon adequate to create a storage reservoir of a capacity of not less than twenty million acre-feet of water and a main canal and appurtenant structures located entirely within the United States connecting the Laguna Dam, or other suitable diversion dam, which the Secretary of the Interior is hereby authorized to construct if deemed necessary or advisable by him upon engineering or economic considerations, with the Imperial and Coachella Valleys in California, the expenditures for said main canal and appurtenant structures to be reimbursable, as provided in the reclamation law, and shall not be paid out of revenues derived from the sale or disposal of waterpower or electric energy at the dam authorized to be constructed at said Black Canyon or Boulder Canyon, or for water for potable purposes outside of the Imperial and Coachella Valleys: *Provided, however,* That no charge shall be made for water or for the use, storage, or delivery of water for irrigation or water for potable purposes in the Imperial or Coachella Valleys; also, to construct and equip, operate, and maintain at or near said dam, or cause to be constructed, a complete plant and incidental structures suitable for the fullest economic development of electrical energy from the water discharged from said reservoir; and to acquire by proceedings in eminent domain, or otherwise, all lands, rights-of-way, and other property necessary for said purposes.

SEC. 2. * * *

SEC. 3. * * *

SEC. 4. (a) This Act shall not take effect and no authority shall be exercised hereunder and no work shall be begun and no moneys expended on or in connection with the works or structures provided for in this Act, and no water rights shall be claimed or initiated hereunder, and no steps shall be taken by the United States or by others to initiate or perfect any claims to the use of water pertinent to such works or structures unless and until (1) the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming shall have ratified the Colorado River compact, mentioned in section 13 hereof, and the President by public proclamation shall have so declared, or (2) if said States fail to ratify the said compact within six months from the date of passage of this Act then, until six of said States, including the State of California, shall ratify said compact and shall consent to waive the provisions of the first paragraph of Article XI of said compact, which makes the same binding and obligatory only when approved by each of the seven States signatory thereto, and shall have approved said compact without conditions, save that of such six-State approval, and the President by public proclamation shall have so declared, and, further, until the State of California, by act of its legislature, shall agree irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, as an express covenant and in consideration of the passage of this Act, that the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River for use in the State of California, including all uses under contracts made under the provisions of this Act and all water necessary for the supply of any rights which may now exist, shall not exceed 4,400,000 acre-feet of the waters apportioned to the lower basin States by para-

graph (a) of Article III of the Colorado River compact, plus not more than one-half of any excess or surplus waters unapportioned by said compact, such uses always to be subject to the terms of said compact.

The States of Arizona, California, and Nevada are authorized to enter into an agreement which shall provide (1) that of the 7,500,000 acre-feet annually apportioned to the lower basin by paragraph (a) of Article III of the Colorado River compact, there shall be apportioned to the State of Nevada 300,000 acre-feet and to the State of Arizona 2,800,000 acre-feet for exclusive beneficial consumptive use in perpetuity, and (2) that the State of Arizona may annually use one-half of the excess or surplus waters unapportioned by the Colorado River compact, and (3) that the State of Arizona shall have the exclusive beneficial consumptive use of the Gila River and its tributaries within the boundaries of said State, and (4) that the waters of the Gila River and its tributaries, except return flow after the same enters the Colorado River, shall never be subject to any diminution whatever by any allowance of water which may be made by treaty or otherwise to the United States of Mexico but if, as provided in paragraph (c) of Article III of the Colorado River compact, it shall become necessary to supply water to the United States of Mexico from waters over and above the quantities which are surplus as defined by said compact, then the State of California shall and will mutually agree with the State of Arizona to supply, out of the main stream of the Colorado River, one-half of any deficiency which must be supplied to Mexico by the lower basin, and (5) that the State of California shall and will further mutually agree with the States of Arizona and Nevada that none of said States shall withhold water and none shall require the delivery of water, which cannot reasonably be applied to domestic and agricultural uses, and (6) that all of the provisions of said tri-State agreement shall be subject in all particulars to the provisions of the Colorado River compact, and (7) said agreement to take effect upon the ratification of the Colorado River compact by Arizona, California, and Nevada.

(b) * * *
 SEC. 5. * * *
 SEC. 6. * * *
 SEC. 7. * * *

SEC. 8. (a) The United States, its permittees, licensees, and contractors, and all users and appropriators of water stored, diverted, carried, and/or distributed by the reservoir, canals, and other works herein authorized, shall observe and be subject to and controlled by said Colorado River compact in the construction, management, and operation of said reservoir, canals, and other works and the storage, diversion, delivery, and use of water for the generation of power, irrigation, and other purposes, anything in this act to the contrary notwithstanding, and all permits, licenses, and contracts shall so provide.

(b) * * *
 SEC. 9. * * *
 SEC. 10. * * *
 SEC. 11. * * *
 SEC. 12. * * *

SEC. 13. (a) The Colorado River compact signed at Santa Fe, New Mexico, November 24, 1922, pursuant to act of Congress approved August 19, 1921, entitled "An act to permit a compact or agreement between the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming respecting the disposition and apportionment of the waters of the Colorado River, and for other purposes," is hereby approved by the Congress of the United States, and the provisions of the first paragraph of Article II of the said Colorado River compact, making said compact binding and obligatory when it shall have been approved by the legislature of each of the signatory States, are hereby waived, and this approval shall become effective when the State of California and at least five of the other States mentioned, shall have approved or may hereafter approve said compact as aforesaid and shall consent to such waiver, as herein provided.

(b) The rights of the United States in or to waters of the Colorado River and its tributaries howsoever claimed or acquired, as well as the rights of those claiming under the United States, shall be subject to and controlled by said Colorado River compact.

(c) Also all patents, grants, contracts, concessions, leases, permits, licenses, rights-of-way, or other privileges from the United States or under its authority, necessary or convenient for the use of waters of the Colorado River or its tributaries, or for the generation or transmission of electrical energy generated by

means of the waters of said river or its tributaries, whether under this act, the Federal water power act, or otherwise, shall be upon the express condition and with the express covenant that the rights of the recipients or holders thereof to waters of the river, or its tributaries, for the use of which the same are necessary, convenient, or incidental, and the use of the same shall likewise be subject to and controlled by said Colorado River compact.

(d) The conditions and covenants referred to herein shall be deemed to run with the land and the right, interest, or privilege therein and water right, and shall attach as a matter of law, whether set out or referred to in the instrument evidencing any such patent, grant, contract, concession, lease, permit, license, right-of-way, or other privilege from the United States or under its authority, or not, and shall be deemed to be for the benefit of and be available to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, and the users of water therein or thereunder, by way of suit, defense, or otherwise, in any litigation respecting the waters of the Colorado River or its tributaries.

SEC. 14. * * *

SEC. 15. * * *

SEC. 16. * * *

SEC. 17. * * *

SEC. 18. Nothing herein shall be construed as interfering with such rights as the States now have either to the waters within their borders or to adopt such policies and enact such laws as they may deem necessary with respect to the appropriation, control, and use of waters within their borders, except as modified by the Colorado River compact or other interstate agreement.

SEC. 19. That the consent of Congress is hereby given to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming to negotiate and enter into compacts or agreements, supplemental to and in conformity with the Colorado River compact and consistent with this act for a comprehensive plan for the development of the Colorado River and providing for the storage, diversion, and use of the waters of said river. Any such compact or agreement may provide for the construction of dams, headworks, and other diversion works or structures for flood control, reclamation, improvement of navigation, diversion of water, or other purposes and/or to the construction of power houses or other structures for the purpose of the development of water power and the financing of same; and for such purposes may authorize the creation of interstate commissions and/or the creation of corporations, authorities, or other instrumentalities.

(a) Such consent is given upon condition that a representative of the United States, to be appointed by the President, shall participate in the negotiations and shall make report to Congress of the proceedings and of any compact or agreement entered into.

(b) No such compact or agreement shall be binding or obligatory upon any of such States unless and until it has been approved by the legislature of each of such States and by the Congress of the United States.

SEC. 20. Nothing in this act shall be construed as a denial or recognition of any rights, if any, in Mexico to the use of the waters of the Colorado River system.

SEC. 21. That the short title of this act shall be "Boulder Canyon project act."

Approved, December 21, 1928.

EXHIBIT 5

MARCH 1944.

Mr. RAFAEL FERNÁNDEZ MACGREGOR,

*Engineer, International Boundary and Water Commission,
El Paso, Tex.*

MY DEAR MR. COMMISSIONER: A question has been raised by officials of the United States with respect to the proper interpretation of article 15 of the treaty between the United States and Mexico, signed at Washington on February 3, 1944, relating to the utilization of the waters of the Colorado and Tijuana Rivers and of the Rio Grande from Fort Quitman, Tex., to the Gulf of Mexico.

The question is whether under the provisions of that article the schedules therein provided might not be subject to an arrangement as would so differ from the current pattern of actual irrigation use in Mexico as to require the delivery of water by the United States in excess of Mexico's firm allotment of 1,500,000 acre-feet per annum.

It seems obvious to those who participated in the negotiation of this treaty that both sides intended that the annual schedules of deliveries were to be formulated by the Mexican section in keeping with the current pattern of use in Mexico. The purpose of the provision for annual schedules, rather than a fixed schedule, was to permit variations to conform with a changing pattern of use. It was also anticipated that unforeseen conditions might arise during the year requiring variations from the monthly quantities fixed in the annual schedule, and, to meet this situation, provision was made in paragraph (f) of Article 15 for such variations within a prescribed range. Nevertheless, I believe the intention was clear that the schedules were to be formulated, subject to these allowable variations, so as to reflect, as accurately as possible, the actual pattern of Mexican use. Conversely, they were not to be formulated in such a manner as to require the delivery of water by the United States in excess of the treaty allotment to Mexico.

This question may have great significance in the hearings before the Senate of the United States in connection with the ratification of the treaty. Consequently, in order to allay any fears that might exist as to the true situation, I should appreciate your confirming this interpretation of article 15—an interpretation which I think you will agree is the correct one, and the one which the representative of both countries had in mind when the treaty was written.

I am, my dear Mr. Fernández MacGregor,

Very truly yours,

L. M. LAWSON, *Commissioner.*

EXHIBIT 5

[Translation]

INTERNATIONAL BOUNDARY AND WATER COMMISSION, MEXICO AND UNITED STATES

MEXICAN SECTION

No. 253.

File: III-L-A/223 (72:73)/233.

Subject: Interpretation of article 15 of the February 3, 1944, treaty on international waters.

CIUDAD JUÁREZ, CHIHUAHUA, March 18, 1944.

Engineer L. M. LAWSON,

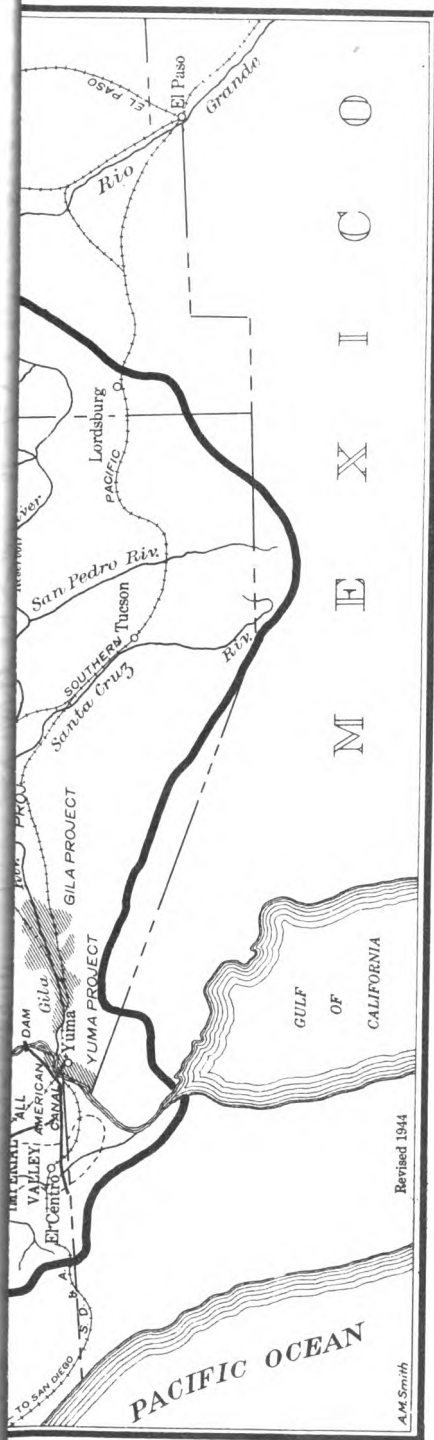
Commissioner of the United States,

International Boundary Commission, El Paso, Tex.

MY DEAR MR. COMMISSIONER: I reply, with pleasure, to your courteous communication dated the 11th of the present month, relative to the interpretation of article 15 of the treaty between Mexico and the United States, signed in Washington on February 3, 1944, relating to the utilization of the waters of the Colorado and Tijuana Rivers and of those of the Rio Grande (Bravo) between Fort Quitman and the Gulf of Mexico.

I agree with the interpretation which you give to article 15 of the treaty, on the formulation of the annual schedules of water delivery for Mexico to which said article refers, in the sense that these schedules shall be formulated by taking into account the actual irrigation requirements in Mexico anticipated for the year following that in which they are formulated, as well as the quantities of water allotted to Mexico in article 10 of the same treaty.

I do not understand the reason why, as you state, certain officials of your country are able to interpret article 15 in the manner mentioned by you in your communication, for if there is taken into consideration that the minimum quantities, established as compulsory for Mexico in the treaty article we are concerned with, added up amount to an annual quantity of 900,000 acre-feet and that, moreover, in order to complete the total quantity of 1,500,000 acre-feet, the maximum quantities established in the treaty may not be exceeded, it is easy to convince oneself of the difficulty and inadvisability which would result from separating oneself, in formulating the schedules, from the actual irrigation requirements, exposing to almost certain collapse the whole Mexican irrigation system which depends for its life on the timely delivery of waters from the Colorado River. The insistence of the representatives of my country, during the meetings, that variations in the monthly quantities of the schedules be allowed for in the treaty, in the manner specified in paragraph (f) of article 15, is evident proof of their intention to formulate the delivery schedules in accordance with the irrigation requirements, since they thought there might be cases in which the forecasts made in one year for another year would not correspond exactly



to actuality and it would be necessary, then, to make use of the right granted by the above-mentioned paragraph (f).

On the other hand, the same treaty establishes the conditions in which Mexico could—in a safe manner and not subject to the contingencies of more or less problematic river flow—utilize quantities of water in excess of the firm 1,500,000 acre-feet, and I believe that the spirit reflected throughout the whole of the language of the treaty, of cooperation between the two countries for the best utilization of the waters of their international streams—which spirit was precisely what made the treaty possible—is the best guarantee that the fears which exist among certain officials of the United States of America, to which you refer in your communication, are completely unfounded.

I am, my dear Mr. Lawson,

Very truly yours,

RAFAEL FERNÁNDEZ MACGREGOR, *Commissioner*.

SUPPLEMENT NO. 2. ENGINEERING

Figures to accompany the statement by Commissioner, United States Section, International Boundary Commission, United States and Mexico, on Water Treaty with Mexico, signed at Washington, on February 3, 1944 (each figure is followed by brief explanatory remarks).

BOUNDARY MAP SHOWING MAIN FEATURES OF THE TREATY (FIG. 1)

This map shows the main construction and also the investigational features of the proposed treaty in their general location and in relation to each other. In most cases, the exact location of the construction features has not been determined and so only their approximate locations are shown. These features include as to the Colorado River the Davis Dam to be built by the United States and the Mexican Diversion Dam to be built by Mexico; and as to the Rio Grande, the three large main channel storage dams.

The investigational features include those for flood control on the Rio Grande from Fort Quitman to the Gulf of Mexico, those on the Colorado River from Imperial Dam to the Gulf of California, and those on the Tijuana River system.

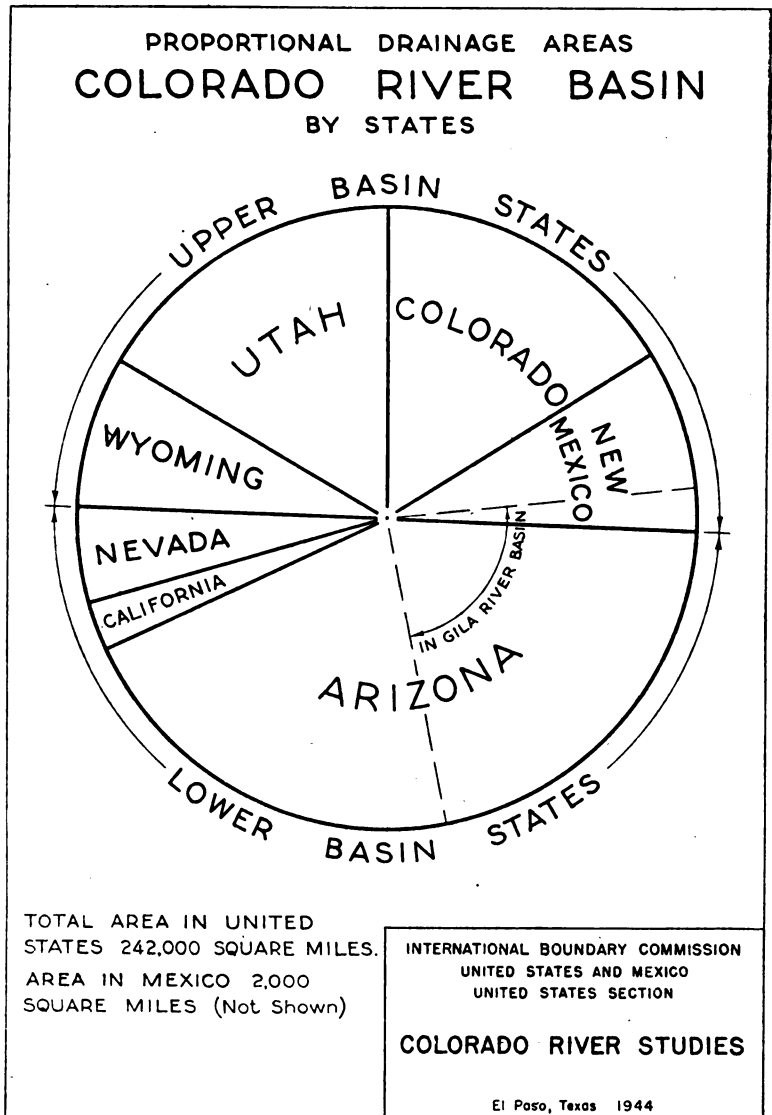
COLORADO RIVER BASIN (FIG. 2)

The major tributaries, which make up the total drainage area of the Colorado River Basin, all drain the western slope of the Rocky Mountains. These, and other important tributaries, with their respective areas, are as follows:¹

	<i>Square miles</i>		<i>Square miles</i>
Green River-----	44,000	Little Colorado River-----	26,000
Upper Colorado River-----	26,000	Virgin River-----	11,000
San Juan River-----	26,000	Gila River-----	57,000
Fremont River-----	4,600	Miscellaneous-----	44,000
Paria River-----	1,400		
Escalante River-----	1,800	Total-----	244,000
Kanab River-----	2,200		

The distribution of area among the States of the Colorado River Basin is illustrated by the circular chart which follows.

¹ From table 20, p. 77, S. Doc. 186, 70th Cong., 2d sess.

**FIGURE 3**

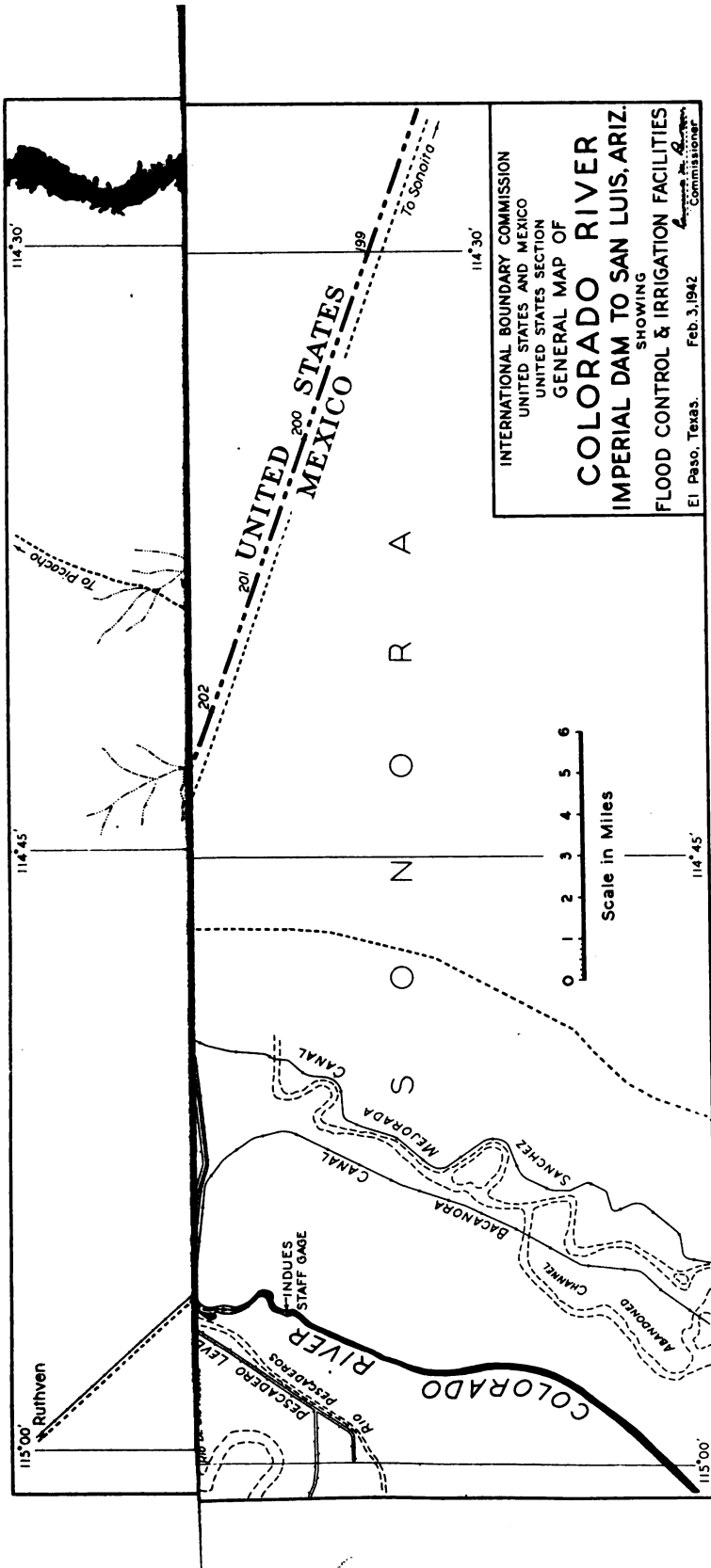
PROPORTIONAL DRAINAGE AREAS, COLORADO RIVER BASIN BY STATES (FIG. 3)

The full circle, representing an area of 242,000 square miles, the area of Colorado River Basin, in the United States, is divided into parts in the proportion of the drainage of the basin within each State as shown by the following tabulation:²

<i>Square miles</i>		<i>Square miles</i>	
Wyoming.....	19,000	California.....	6,
Colorado.....	39,000		
New Mexico.....	23,000	In United States.....	242,
Utah.....	40,000	In Mexico.....	2,
Arizona.....	103,000		
Nevada.....	12,000	Total.....	244,

² "Report of the American section of the International Water Commission, United States and Mexico." H. Doc. No. 359, 71st Cong., 2d sess., p. 71.

FIGURE 6



DAILY HYDROGRAPH, COLORADO RIVER AT YUMA (FIG. 4)

Upon a continuous hydrograph of the discharge of the Colorado River at Yuma, for the period since January 1, 1902, there has been superimposed a chronology of historical events significant in the development of the lower river. This chronology is by no means complete, but it has been made to indicate the more important events, which have had a far-reaching effect on the progress of development along the river.

The daily flow depicted is that which has passed the Yuma gaging station.³ Certain events have taken place within the period of record shown which have markedly influenced the flow at this station, as follows:

(a) After the Siphon Drop power plant was placed in operation in 1913, water was diverted at Laguna Dam for this purpose through the Yuma canal and released back to the river below the Yuma gaging station. In recent years the quantity that has bypassed the gage has equaled approximately 1,000,000 acre-feet annually. Since the construction of the All-American Canal this practice has been continued.

(b) Upon the closure of Boulder Dam in 1935, storage was started in Lake Mead, with releases into the river downstream being held to a minimum. The storage captured in the reservoir had accumulated to about 31,000,000 acre-feet by the middle of 1941, thus greatly modifying the flow at Yuma. Therefore, records observed since the beginning of 1935 are not comparable with those observed prior to that date.

(c) Starting with 1942 the water supply for Imperial Valley, which theretofore passed the gage at Yuma to be diverted at Rockwood Heading, has been diverted the average use in Imperial Valley is about 2,500,000 acre-feet, the records since the average use in Imperial Valley is about 2,500,00 acre-feet, the records since that time are not comparable with the earlier records.

COLORADO RIVER—MEXICAN DIVERSIONS AND MEXICAN IRRIGATED AREAS (FIG. 5)

The two charts which make up this exhibit show the best information now available as to the use that Mexico has made of waters from the Colorado River and the acreage upon which these waters have been applied in irrigation.⁴

The irrigated acreage has increased from about 200,000 acres in 1920 to about 300,000 acres at present. This acreage, all served from Colorado River waters, may be segregated as to means of getting this supply as follows:

	<i>Acres</i>
Alamo canal system (by gravity), about.....	200,000
Lower river (by pumping), about.....	91,000
San Luis area (from Yuma project), about.....	9,000
Total, about.....	300,000

It requires headgate diversions of approximately 6.0 acre-feet per acre to successfully irrigate in this area. Hence the 1,800,000 acre-feet that has been used in recent years by Mexico.

COLORADO RIVER—IMPERIAL DAM TO SAN LUIS, ARIZ. (FIG. 6)

The area covered by this map shows where four States come together, two in the United States, Arizona and California, and two in Mexico, Baja California and Sonora. The Colorado River from Andrade to San Luis, a distance of about 20 miles, forms the international boundary. The Colorado River forms the boundary between California and Arizona in this country and most of the boundary between Sonora and Baja California in Mexico.

Rockwood Heading, on the Colorado River just north of the upper boundary line, marks the head of the Alamo canal, which is shown entering Mexico and leading off in a southwesterly direction. A part of the water diverted from the Colorado River for use in Mexico and all of the water used in the Imperial Valley in the United States formerly was carried through this Alamo canal. This canal proceeds through Mexico in a westerly direction some 40 miles, reentering the United States near the border town of Calexico.

³ Records from Water Supply Papers of the U. S. Geological Survey.

⁴ See table in data book for footnotes showing source of information.

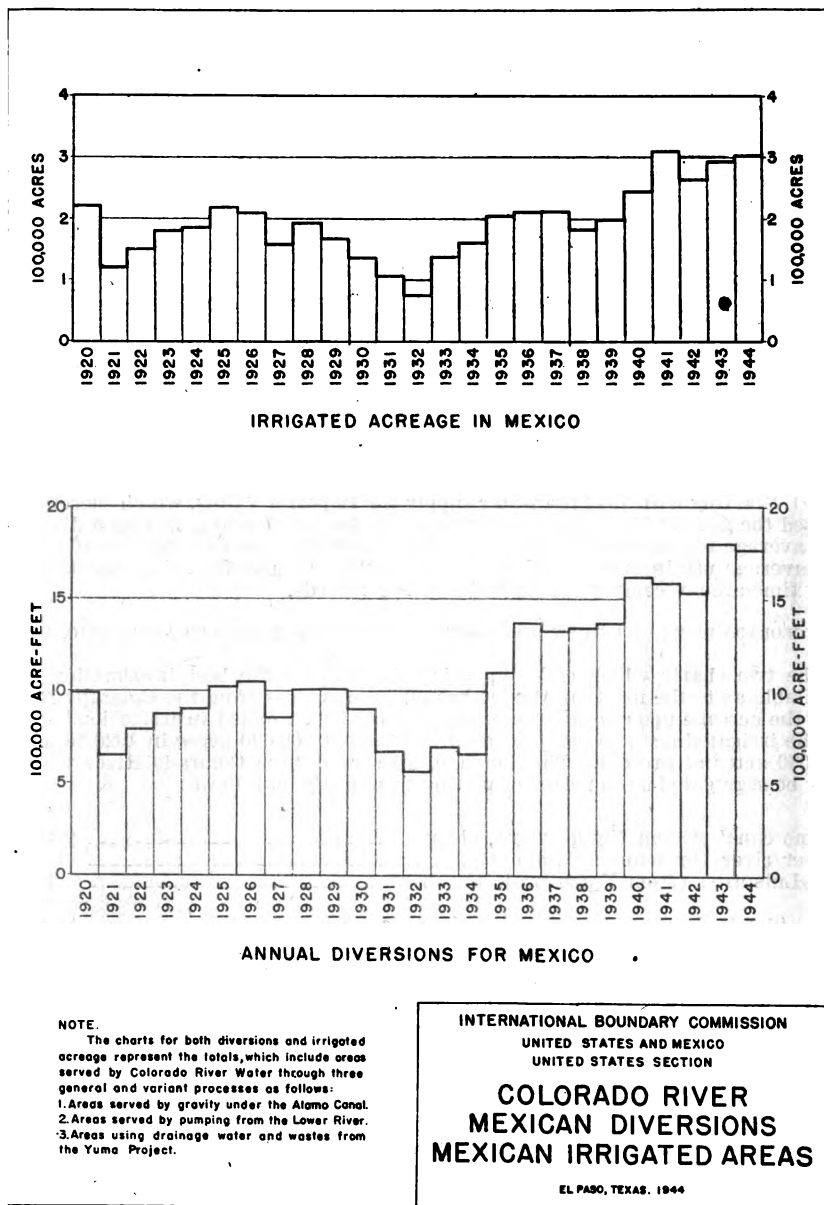


FIGURE 5

AERIAL MAP-COLORADO RIVER IN VICINITY OF
ALAMO CANAL HEADING

FIGURE 7



Since the All-American Canal went into operation in 1942, with its heading at Imperial Dam, the water for Imperial Valley is no longer carried through the Alamo canal.

The Yuma project formerly diverted its water supply from the Colorado River at Laguna Dam, which was completed in 1909, but now it is served through the All-American Canal and the Siphon Drop power plant. Diversions on the Arizona side are made at Imperial dam for the Gila project, and at Laguna Dam for the North Gila project.

AERIAL MAP, COLORADO RIVER IN VICINITY OF ALAMO CANAL HEADING (FIG. 7)

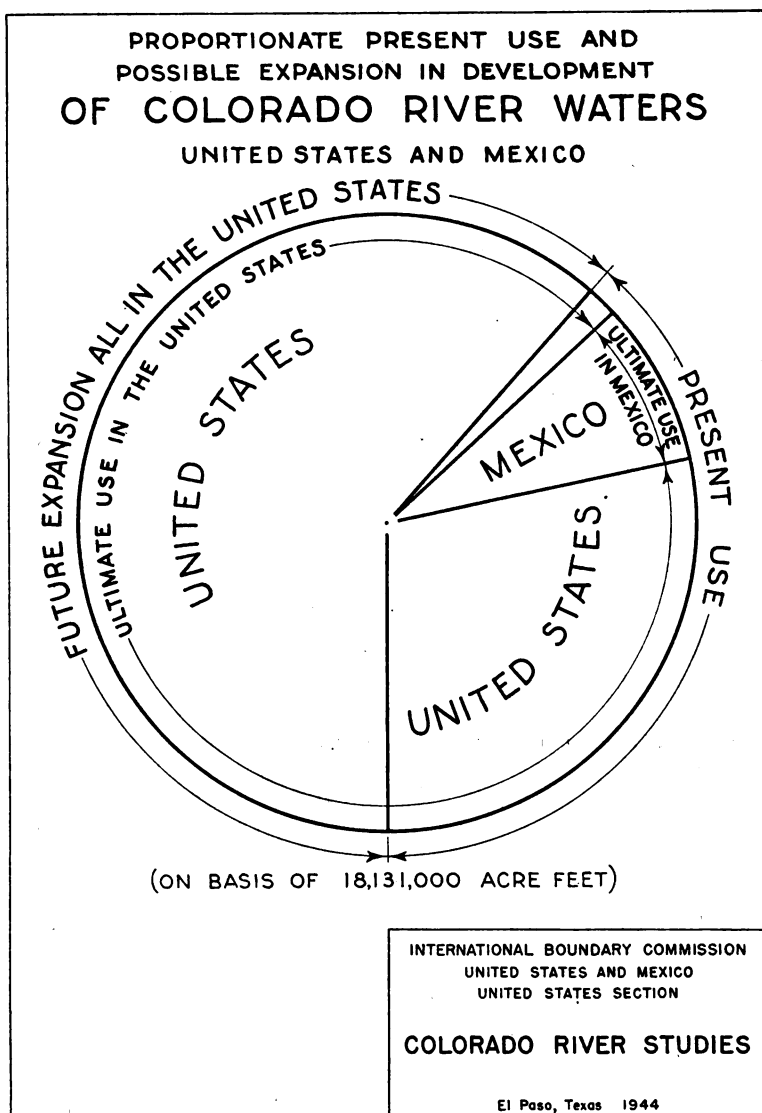
The area covered by this map centers approximately 7 miles west of Yuma, Ariz.⁵ Diversions to the Alamo canal are now made in the United States at Rockwood Heading to serve lands wholly in Mexico. An interconnection between the head of the Alamo canal and the All-American Canal, through the Pilot Knob wasteway, is clearly evident.

Use was made of this interconnection in 1944 when about 400,000 acre-feet of water was supplied to Mexico through the All-American Canal to avert a serious water shortage. This shortage was not caused by lack of water in the river, but was due to the river water surface being too low to permit the necessary diversion. In case of emergency involving the All-American Canal the 18-mile stretch above this wasteway is designed to be unwatered by passing the canal water back to the river through Rockwood Heading.

The treaty provides for the acquisition of these facilities by the United States if they are used for the delivery of water to Mexico or for the construction of necessary facilities in lieu of them.

Present use of the waters of the Colorado River Basin is indicated to be only about one-third of total. This is divided between the United States and Mexico in the proportion of about $3\frac{1}{2}$ to 1. Possible expansion in the United States will permit an ultimate development of more than three times the use that is now being made of Colorado River waters. On the other hand, under the proposed treaty, Mexico will be limited to something less than her present use, with no allowance for future expansion.

⁵ From the aerial survey of 1942, made for the Bureau of Reclamation.

**FIGURE 8**

PROPORTIONATE PRESENT USE AND POSSIBLE EXPANSION IN DEVELOPMENT OF COLORADO RIVER WATERS (FIG. 8)

The distribution shown is based on a total water supply of 18,131,000 acre-feet annually, which is the estimate made by the Bureau of Reclamation, and reported at the meeting of the Committee of Fourteen and Sixteen in Denver November 10 and 11, 1944.

SCHEDULE LIMITS ON COLORADO RIVER WATER TO MEXICO (FIG. 9)

Although the schedule limitations on Colorado River water that Mexico may use are different before and after 1980, it is only in the later period that water supplies in the United States are expected to be fully utilized. Therefore, the schedule limits for this later period are the only ones shown. The upper chart

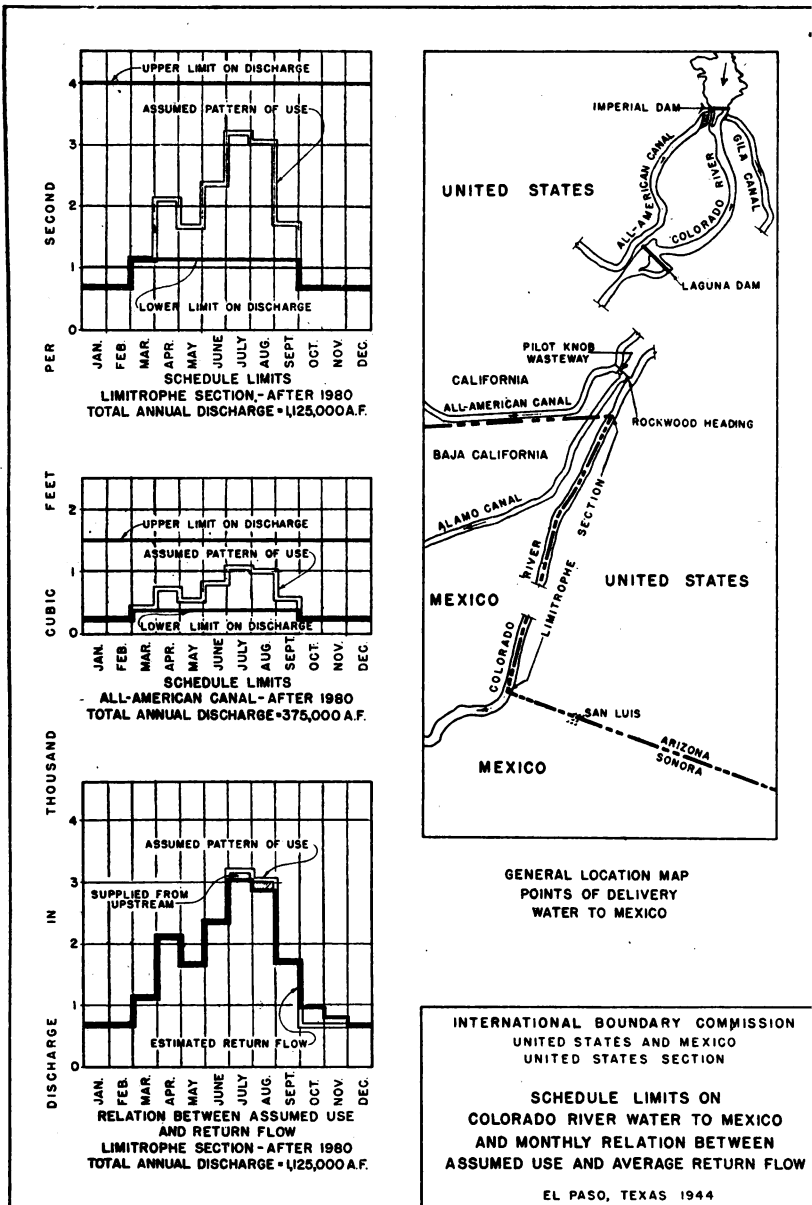


FIGURE 9

shows the limiting rates of discharge for each month for the deliveries that are to be made in the limitrophe section, which shall not be in excess of 1,125,000 acre-feet annually, except when, as determined by the American section, there exists surplus water available for delivery to Mexico. The maximum rate throughout the year is 4,000 second-feet while the lower limit is 675 second-feet during the winter months and 1,125 second-feet in the summer.

The middle chart shows the limitations on monthly rates of discharge for deliveries through the All-American Canal, where the annual delivery will

375,000 acre-feet. Maximum rates are 1,500 second-feet, while minimum rates are 225 second-feet in the winter and 375 second-feet in the summer.

The bottom chart brings out the close relationship between the assumed pattern of use, based primarily on the culture of cotton, and the possible distribution of return flow as it is expected to appear in the river, if development in Arizona is limited to the first unit of the Gila project, with the other part of Arizona water used in the Phoenix area.

The map on this chart shows the location of the points of delivery as described in the proposed treaty.

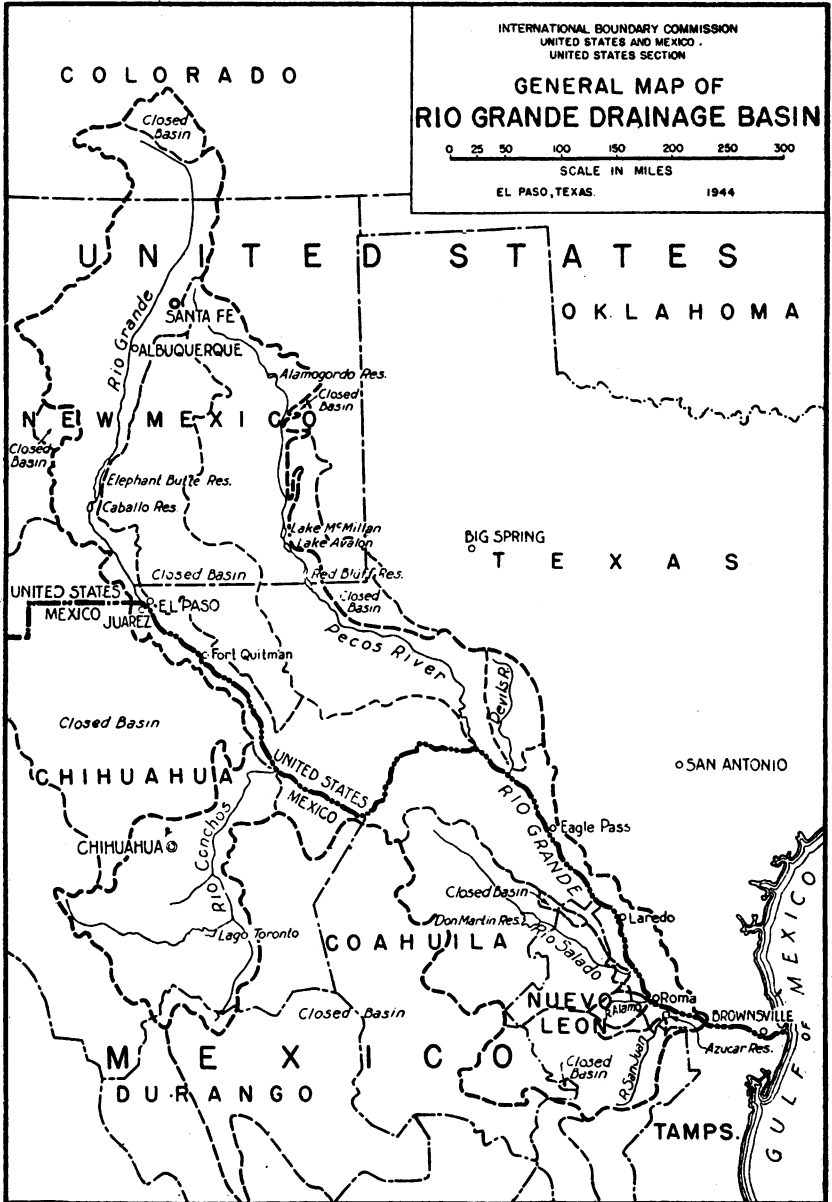


FIGURE 10

RIO GRANDE DRAINAGE BASIN (FIG. 10)

The drainage basin of the Rio Grande extends from the mountains of southern Colorado some 1,800 miles to the Gulf of Mexico. In this distance the Rio Grande forms the boundary between the United States and Mexico for the last 1,200 miles of its course. The basin includes parts of three States in the United States, namely, Colorado, New Mexico, and Texas. In Mexico the basin includes parts of five States, which are Chihuahua, Durango, Coahuila, Nuevo Leon, and Tamaulipas.

The proposed treaty applies only to the Rio Grande below Fort Quitman, Tex., which point is located approximately 80 miles downstream from El Paso.

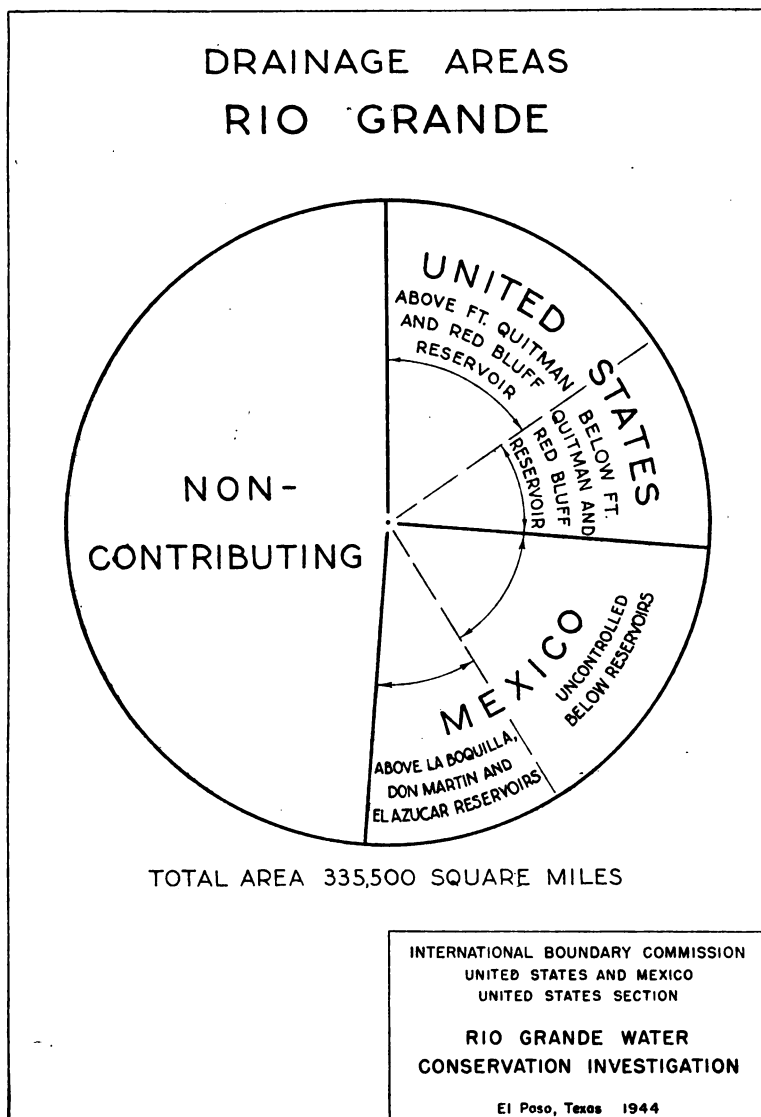


FIGURE 11

DRAINAGE AREAS, RIO GRANDE (FIG. 11)

A gross area of about 335,500 square miles is enclosed within the outer boundaries of the Rio Grande Basin. However, only about one-half of this area is effective in producing run-off which reaches the main stream. The net contributing area, after eliminating all closed basins, is approximately 172,000 square miles, which is divided between the United States and Mexico, as follows:⁶

	<i>Square miles</i>
United States.....	89,000
Mexico.....	83,000
Total.....	172,000

The area in the United States above Fort Quitman is almost completely controlled by upstream storage at Elephant Butte and Caballo Reservoirs. The area below Fort Quitman in the United States, in which the Pecos River is the largest tributary, is likewise partially controlled by the Red Bluff and other reservoirs. The area below Fort Quitman in Mexico is partially controlled by the three large reservoirs now in operation on the major Mexican tributaries, which are:

Tributaries.—Rio Conchos, Rio Salado, and Rio San Juan.

Reservoirs.—La Boquilla, Don Martin, and El Azucar.

HYDROGRAPH OF RIO GRANDE (FIG. 12)

The hydrographs for Rio Grande City and Brownsville,⁷ both on the Rio Grande, have been plotted simultaneously on this chart in terms of the monthly run-off at each of the stations. The upper station, at Rio Grande City, reflects the inflow available to the irrigated area in the Lower Rio Grande Valley. It is represented on the chart by the solid line, which in most cases, stands at the top of the column for each month. The lower station is below the city of Brownsville, and below all intakes for irrigation water along the river, hence it reflects the outflow from the area, or the water which flows unused into the Gulf. It is represented on the chart as the upper limit of the shaded area.

The difference between the inflow and outflow affords a measure of the use of water for irrigation in the lower Rio Grande Valley. This use varies from month to month, ranging from a small amount to quantities in excess of 100,000 acre-feet.

Large differences on the chart, which in practically every case coincide with excessive run-off, reflect the losses in flood water caused by its diversion into floodways on both sides of the river, through which it escapes into the Gulf, and thus bypasses the lower gage as represented on this chart.

The variation in flow from month to month, which at the upper gage has ranged from less than 100,000 acre-feet in some months to as high as 3,881,200 acre-feet, illustrates the need for upstream storage whereby these excessive flows can be captured and stored for use as needed.

⁶ Based on data shown in the Water Bulletins of the International Boundary Commission.

⁷ Based on published records, except for 10-year interval 1914-23, for which estimates made by the International Boundary Commission are used.

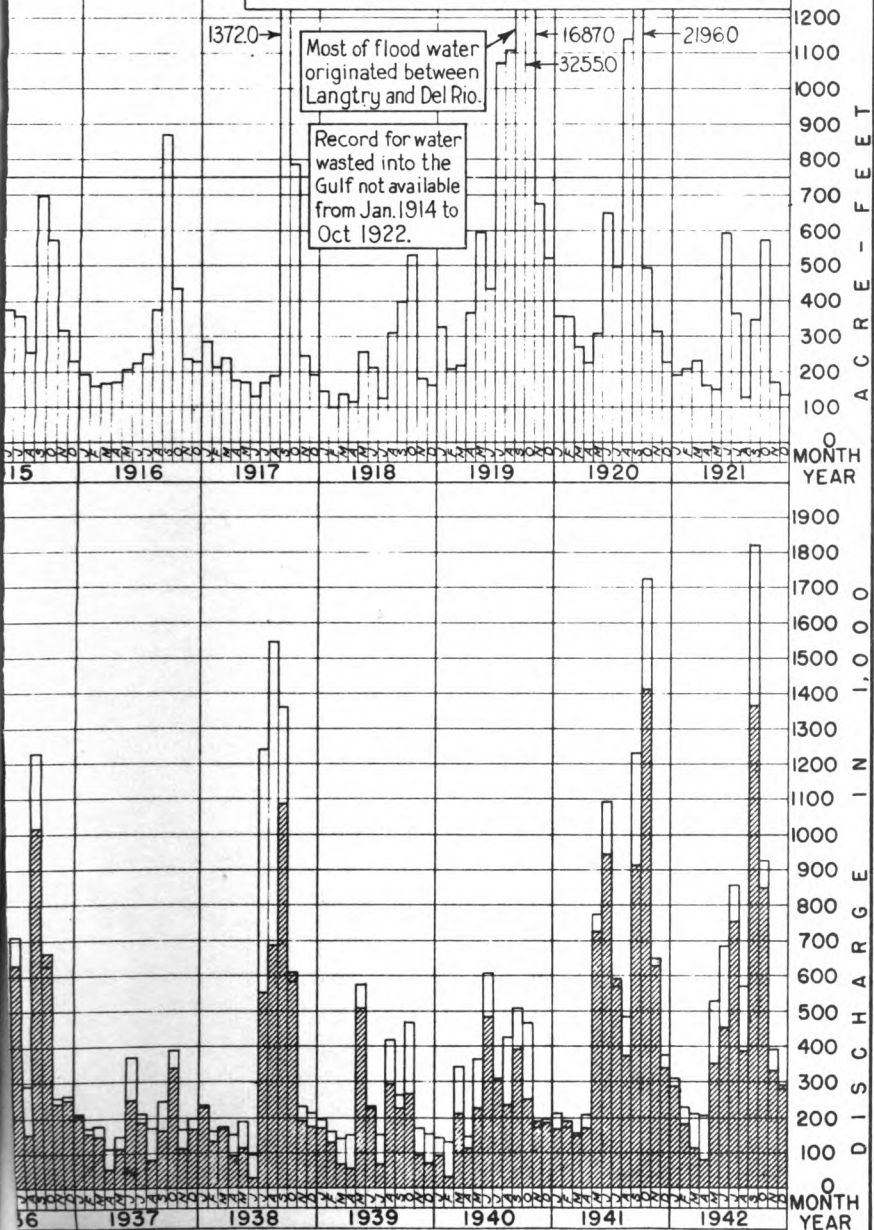
FIGURE 12

INTERNATIONAL BOUNDARY COMMISSION
UNITED STATES AND MEXICO
UNITED STATES SECTION

HYDROGRAPH OF RIO GRANDE AT UPPER AND LOWER LIMITS OF IRRIGATION LOWER RIO GRANDE VALLEY

EL PASO, TEXAS.

AUGUST, 1944



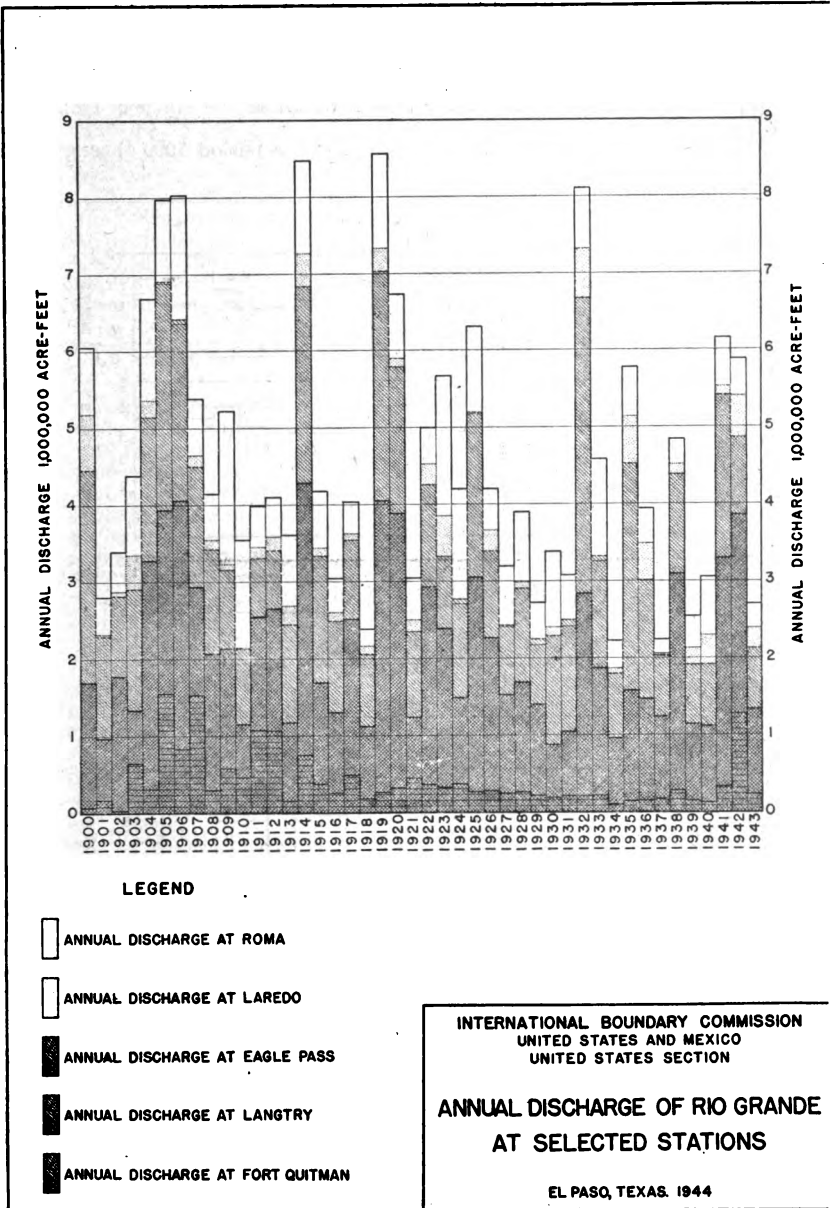


FIGURE 13

ANNUAL DISCHARGE OF RIO GRANDE AT SELECTED STATIONS (FIG. 13)

Two facts are illustrated by this chart. The first indicates that from the upper station near Langtry to the lower station shown, which is at Roma, there is a significant increase in the annual discharge of the river. The second fact brings out the extreme variation in the run-off at all of the stations from year to year.

The average flow at the respective stations for the period 1900 through 1943 has been as follows:*

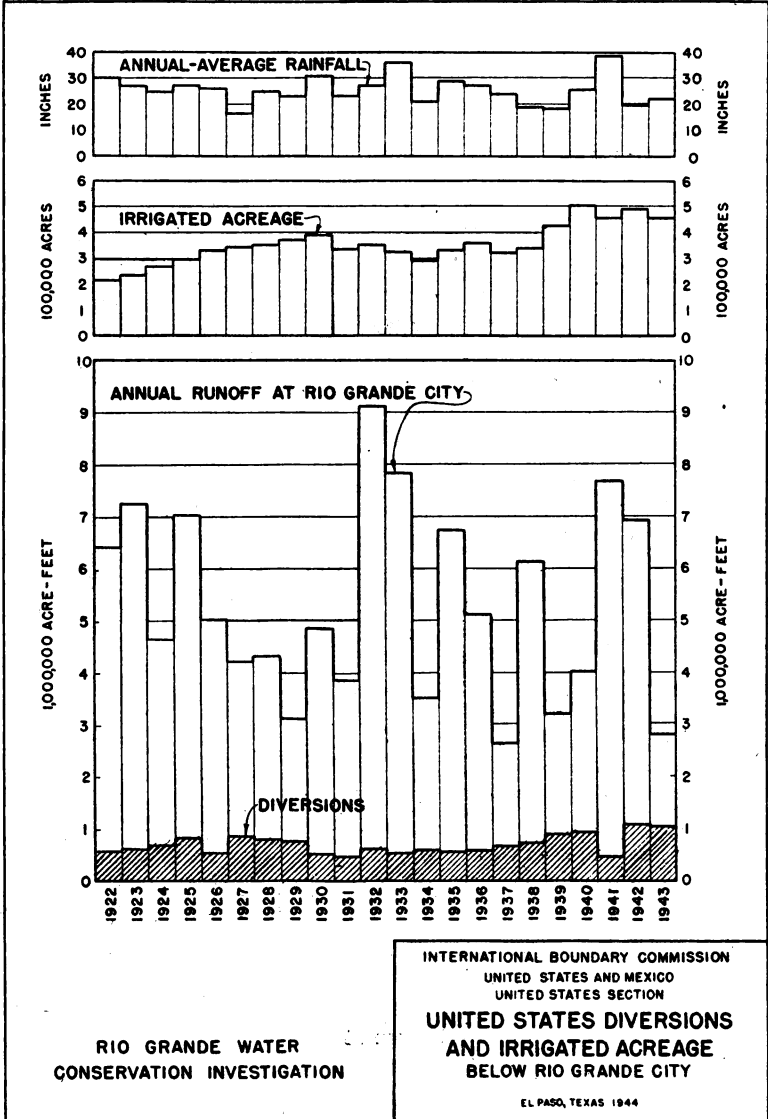


FIGURE 14

* Based on published records, except for period 1914-23, for which estimates made by the International Boundary Commission are used.

	<i>Acre-feet</i>
Rio Grande at Fort Quitman-----	409, 000
Rio Grande at Langtry-----	2, 141, 000
Rio Grande at Eagle Pass-----	3, 634, 000
Rio Grande at Laredo-----	3, 818, 000
Rio Grande at Roma-----	4, 620, 000

At Langtry the variation in annual run-off has ranged from 879,000 acre-feet to 4,279,000 acre-feet, while at Roma the range has been from 2,227,000 acre-feet to 8,548,000 acre-feet.

It is the extreme variation in discharge, not only in annual flow, but also in daily and monthly discharge, which makes irrigation so hazardous under the unregulated condition of the river. Under the proposed treaty, the creation of upstream storage would permit the saving of a large part of this water, which now wastes unused into the Gulf of Mexico.

LOWER RIO GRANDE VALLEY, UNITED STATES DIVERSIONS AND IRRIGATED ACREAGE
(FIG. 14)

The principal item on this chart is the comparison between annual run-off at Rio Grande City, which measures the inflow of irrigation water to the lower valley, and the diversions that have been made since observations began in 1922. These figures, both in terms of annual discharge, show that each year so far there has been more water passing into the area than was required for irrigation. If use could be made of all of the water that reaches this point each year, it would allow for quite extensive development over and above the area now irrigated.

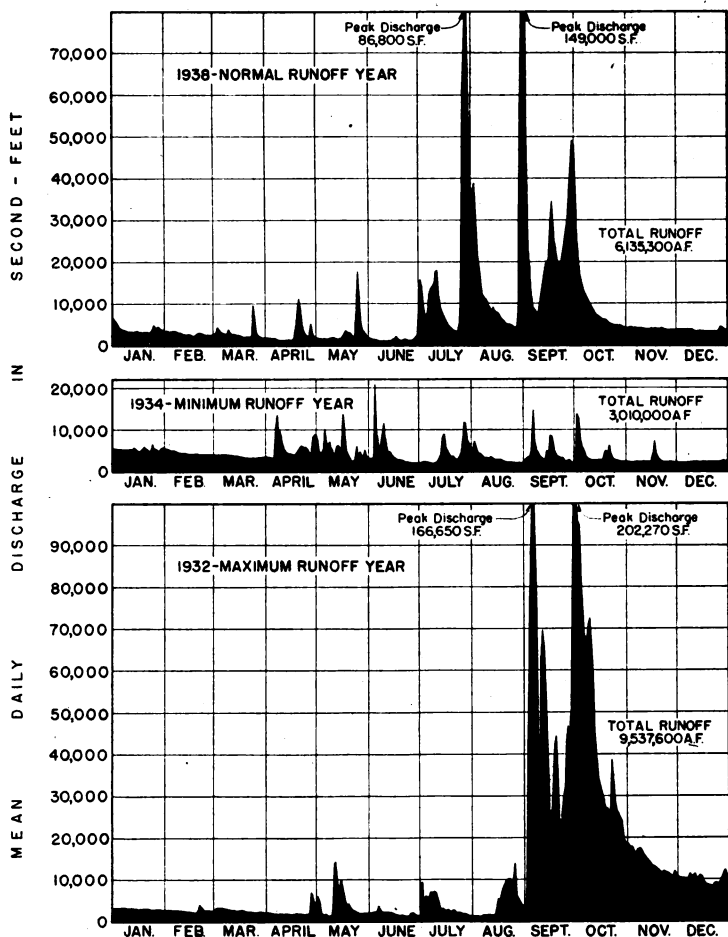
However, the annual flow does not come at a uniform rate, but varies throughout the year from minimum flows that are entirely inadequate to meet irrigation needs, to excessive flood flows which cannot be used.

Under the proposed treaty, provision is made for the creation of storage, by which a large proportion of the total flow may be made available for irrigation use.

The upper parts of the chart show that the increase in acreage has been approximately in phase with the increased diversions, and that in years of excessive precipitation, diversions ordinarily decrease proportionately.

The rainfall is computed from records of the United States Weather Bureau.

Records of diversions and acreage irrigated are on file in the office of the American section of the International Boundary Commission.



NOTE:

The normal, minimum and annual runoff years are in reference to the period, 1924 through 1944, for which records of discharge are available.

INTERNATIONAL BOUNDARY COMMISSION
UNITED STATES AND MEXICO
UNITED STATES SECTION

DISCHARGE OF RIO GRANDE AT RIO GRANDE CITY

EL PASO, TEXAS 1944

FIGURE 15

DAILY HYDROGRAPH, RIO GRANDE AT RIO GRANDE CITY (FIG. 15)

Daily hydrographs of the Rio Grande at Rio Grande City have been prepared for 3 separate years,⁹ representative of maximum, minimum, and normal conditions.

⁹ Records from the Water Bulletin of the International Boundary Commission.

tions with respect to total annual run-off, as determined for the period since 1924. This station marks the head of the large irrigation development in the United States, mostly in Cameron, Hidalgo, and Willacy Counties, that is commonly referred to as the lower Rio Grande Valley. The extremes range from 58 percent of the normal to 184 percent. However, it is not the variation in the annual run-off which poses a serious problem with regard to irrigation, but it is the day-to-day fluctuations which cause the trouble.

For instance, at the height of the irrigation season a daily flow of 3,500 second-feet at the head of the valley is required to meet all irrigation demands. Shortages occur whenever the river flow at Rio Grande City drops below this rate of discharge. On the other hand, excessive flood flow cannot be used and wastes into the Gulf. The range in daily discharge during the 3 years illustrated has been as follows:

Year	Discharge in second-feet	
	Minimum	Maximum
1938.....	984	147,000
1935.....	1,870	25,300
1932.....	1,260	198,750

It is the need for regulation of this extremely erratic flow which prompts the proposal for the construction of a series of storage reservoirs by which the nearly 4,000,000 acre-feet of water that now annually wastes into the Gulf can be captured and converted to beneficial use.

(Chart on file with the committee.)

ALLOCATION OF FUNCTIONS PRESCRIBED BY WATER TREATY WITH MEXICO, SIGNED AT WASHINGTON FEBRUARY 3, 1944

I. Functions to be performed by the two Governments

1. Consider, for approval, plans for projects authorized by the treaty, as submitted by the International Boundary and Water Commission in the form of minutes, in accordance with procedure established under provisions of the treaty of March 1, 1889.

2. Conclude special agreements regarding development and distribution of electric power generated at the international dams constructed on the Rio Grande.

3. Determine and agree, as soon as Davis Dam and Reservoir are placed in operation, upon the portion to be paid by Mexico of the costs of construction, operation, and maintenance of facilities in the United States used in part in making deliveries of water allocated to that country, taking into consideration the proportionate use of such facilities by each country.

4. Decide all questions relating to the interpretation of treaty provisions concerning which the two Commissioners are unable to agree.

NOTE.—Approval by the United States of project plans submitted by the Commission, involving expenditures, comprehends approval of the Bureau of the Budget and the Congress of the United States, which alone has power to authorize appropriations. Agreements between the two governments, involving expenditures, are subject to the same scrutiny.

II. Functions to be performed by the Commission, subject to the approval of the two Governments

1. Complete and submit, in the form of minutes, for the approval of the two Governments:

(a) Plans and cost estimates for each international dam to be constructed on the Rio Grande.

(b) Plans and cost estimates for the joint flood-protection works and channel rectification deemed necessary on the Rio Grande.

(c) Plans for the main Mexican diversion dam, if such dam is to be constructed in the limitrophe section of the Colorado River.

(d) Plans for flood-protection works to be constructed, at Mexico's expense, simultaneously with the construction of the main Mexican diversion dam on the Colorado River, for the protection of lands in the United States.

(e) Plans and cost estimates for flood-protection works and channel rectification on the Colorado River, between Imperial Dam and the Gulf of California, deemed necessary for adequate protection of lands in both countries, together with recommendations as to the part of such works to be constructed and maintained by the Commission and by each Government, respectively.

(f) Plans and cost estimates for the further conservation of the waters of the Tijuana River system together with recommendations as to the distribution between the two countries of the resulting supply, and as to the part of the works, including flood-control structures, to be constructed, operated, maintained, and paid for by each Government.

(g) Plans for all gaging stations to be established, operated, and maintained by the Commission in and along the limitrophe sections of the Rio Grande and Colorado River.

2. Operate and maintain all completed international projects, in accordance with regulations specified in the treaty, or modifications thereof, which have been approved by both Governments.

III. Functions to be performed by the United States, acting through the United States section of the Commission

1. Consider, for approval, plans for the temporary weir which Mexico is authorized to construct in the bed of the Colorado River, in United States territory, for the purpose of diverting water to the Alamo canal pending completion of Davis Dam and Reservoir.

2. Construct or acquire, for the account of Mexico, in accordance with the laws of the United States, works and facilities required in American territory to deliver, at specified points on the international land boundary, Colorado River water allocated to Mexico.

3. Operate and maintain, for the account of Mexico, all works and facilities in the United States used exclusively in making deliveries of water allocated to Mexico.

4. Acquire all necessary rights-of-way and real property, and construct or supervise the construction of the parts of international projects on the Rio Grande and Colorado River, including flood control works, allotted to the United States by agreement between the two Governments, utilizing for that purpose competent public or private agencies, in accordance with applicable laws of the United States.

IV. Functions to be performed directly by the United States section of the Commission

1. Arrange with the appropriate agencies of the Department of the Interior of the United States—

(a) To be informed in advance regarding planned releases of Colorado River water during each ensuing year, in order to determine the quantity which Mexico is entitled to schedule.

(b) To be informed regarding necessary reductions in deliveries of Colorado River water to projects in the United States, in order that deliveries of water allocated to Mexico may be proportionately reduced.

(c) To obtain releases of water at Davis Dam, when placed in operation, necessary to make deliveries of water allocated to Mexico in accordance with schedules.

2. Construct, operate, and maintain gaging stations, on or along the border, in the United States necessary to measure deliveries to Mexico from Colorado River and United States contributions and diversions on the Rio Grande, and arrange with appropriate agencies to obtain other data as they may be required.

3. Determine, with respect to applications for future diversions of Rio Grande water to American territory, whether or not there is available sufficient water belonging to the United States for such diversion.

Mr. LAWSON. I have placed that in the record because the question has arisen as to the insertion of some exhibits, all of which appear in the statement, in order, and which would be duplicated if we are to insert them in statements made orally to you.

The CHAIRMAN. There is some duplication, no doubt. That will occur. We will just have to do the best we can; but I think the statement probably in its entirety ought to be inserted in the record. So, you have submitted it, and we will have it copied. All right. Proceed.

Senator JOHNSON of California. Anything that is pertinent, go ahead and state.

Mr. LAWSON. Some questions have now arisen as to works, as to return flow, as to water supply, and I should like to present to the committee, then, those of our witnesses who would testify on those points which have already arisen.

With your permission, then, Mr. Chairman, may I present the engineer of the Commission, Mr. C. M. Ainsworth?

The CHAIRMAN. Yes. He is next on the list, but I understood yesterday that you wanted to resume.

Mr. LAWSON. I only say that and ask that privilege because of the fact that some of these points have already arisen in the testimony, which I would like them to testify on.

The CHAIRMAN. All right. We will take Mr. Ainsworth.

**STATEMENT OF C. M. AINSWORTH, ENGINEER, AMERICAN SECTION,
INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND
MEXICO**

The CHAIRMAN. Please state your name and position for the record, Mr. Ainsworth.

Mr. AINSWORTH. My name is C. M. Ainsworth. I am engineer for the American section, International Boundary Commission, United States and Mexico.

I wish to talk first about the Rio Grande and the construction of the proposed dams.

The CHAIRMAN. Would it interfere with your presentation to get right to the Colorado River, since we have been talking about it, and talk about the Rio Grande later?

Mr. AINSWORTH. It is a very short statement, Senator.

The CHAIRMAN. Very well. Speak up so that everyone can hear you.

Mr. AINSWORTH. The treaty provides, as to the Rio Grande, for the construction of three storage dams. It is now planned that one of these dams will be located near the town of Salineno, Tex., in the reach of river between Laredo and Roma, Tex.; another in the reach of river between Eagle Pass and Laredo; and a third in the reach above Del Rio, probably south of Sanderson, Tex., in what is called the Martin Canyon.

The development plan for the river will probably include other river works, such as diversion dams and other diversion works.

While very large intangible benefits will accrue to both Nations from the proposed settlement of the international questions covered by the treaty, there will also ensue great tangible benefits from the construction of the works made possible by the provisions of the treaty. The storage dams on the Rio Grande will, in addition to their other purposes, provide flood-control facilities unattainable by any other method or by either Nation acting alone. The benefits from such

flood control will be potentially economically mutual to both the United States and Mexico. The conservation of the waters of the stream by the reservoirs created by the dams will assure to each country the continued irrigation of the lands now developed and a large expansion of such areas. The dams will also serve the multiple purposes of domestic supply, power development, silt pollution reduction, recreation, and wild waterfowl protection, as well as other conservation purposes. The series of proposed dams will develop the reach of river to the maximum for the related purposes.

As to the United States, it is estimated that the area now irrigated along the river below Fort Quitman is about 500,000 acres, and that with the storage dams an expansion of this irrigated area to about 900,000 acres will be possible. Such an expansion would be coupled with a probable increase in valuations from the present figure of about \$300,000,000 to probably \$600,000,000, and with an increase in population from the 1940 figure of 300,000 to about 500,000 people.

While more detailed and extensive engineering studies are required before the final plans and cost estimates can be prepared, sufficient data are available to indicate that the total cost of the storage works and their appurtenances will be in the approximate amount of \$86,000,000, of which about 61.5 percent, or \$53,000,000, will probably represent the share of the United States, leaving \$33,000,000 as Mexico's share.

It is estimated that approximately 330,000,000 kilowatt-hours of electric energy can be developed annually at the power plants to be built in connection with the storage dams. Such plants would have an installed capacity of 82,500 kilowatts. The revenue from the sale of this power would be sufficient to pay for the operation and maintenance of the power plants and to amortize, over a period of 40 years at 3 percent, about \$16,000,000 of the capital investment in the dams and power plants.

The treaty provides, among other things, for a definite allocation to the United States of a part of the flow of the Rio Grande. This water, when conserved by the contemplated storage dams and reservoirs, will permit the use of water on the United States side of the river far in excess of that occurring at present and in excess of that contemplated when the valley gravity canal and storage project was authorized for construction by the Congress.

It is probable that, with storage provided by channel reservoirs, a large part of the more expensive construction items contemplated under the valley gravity canal and storage project can be eliminated. These eliminated items may reduce the cost of that project by \$42,000,000. It is apparent, then, that the United States' share of the cost of the storage dams and reservoirs—\$53,000,000—would be almost entirely offset by the \$42,000,000 of savings referred to, plus the United States' share of the capital cost that can be amortized by the revenue from the sale of power possible of development at the dams.

With regard to the Colorado River, the treaty stipulates the construction of a diversion dam in or below the boundary section of the stream, the Davis Dam in the United States, a canal connecting the Pilot Knob wasteway with the Mexican Alamo canal at the land boundary on the west side of the river, protective works along both sides of the river above the mentioned diversion dam for the protection of lands in both the United States and Mexico, and under certain circumstances

a canal along the east bank of the river to connect from that diversion dam to Mexican territory at the lower land boundary line near San Luis, Sonora. All of these works except the Davis Dam—that is, all the works on the Colorado except the Davis Dam—are to be built at the expense of Mexico. The construction of the Davis Dam is to be at the expense of the United States.

The construction of the part of the protective works incident to the Mexican diversion dam, and located in the United States, construction or acquisition of the canal to connect from the Pilot Knob wasteway of the All-American Canal to the Mexican Alamo Canal at the boundary line, and the construction of a canal to extend along the east bank of the river from the Mexican diversion dam to a point on the land boundary near the town of San Luis, Sonora, if needed all will be accomplished by the United States, but at the expense of Mexico. These definite construction items and other costs incidental thereto will require the expenditure by Mexico of funds in the estimated amount of \$2,000,000.

Senator LA FOLLETTE. Where is Pilot Knob?

Mr. AINSWORTH. It is located about a mile above the boundary, called the upper boundary, in California, on the west side of the river. It is where the All-American Canal turns to the west after following down the Colorado River.

The treaty also provides for the use of a part of the capacity of the All-American Canal and of the Imperial Dam for the delivery of a part of the treaty water to Mexico, and for the payment by Mexico to the United States of her proportionate part of the cost of such facilities. These works were constructed by the Department of the Interior, Bureau of Reclamation.

Senator HAYDEN. Does the Imperial Canal have the capacity to serve that valley and at the same time deliver 1,500,000 acre-feet of water annually to Mexico?

Mr. AINSWORTH. Answering your question directly, Senator, I believe it does; however, the schedules under the treaty do not contemplate delivery of that much water through the All-American Canal to Mexico.

Senator HAYDEN. What I am getting at in this next question is that if the entire quantity of water provided for in the treaty could be delivered to Mexico through the All-American Canal and not take up capacity needed in California, then there would be no necessity for the construction of a diversion dam in the main stream of the Colorado to divert water to Mexico?

Mr. AINSWORTH. That is right.

Senator McFARLAND. You have no benefit of return flow without construction; is not that right?

Mr. AINSWORTH. That is right.

To answer the Senator's question directly, if that is true, all the water could be delivered through the All-American Canal, but you would lose the advantage of all the return flow. That would go to Mexico, anyway.

Senator HAYDEN. Then, it is to the advantage of the United States to have a diversion dam in the main stream of the Colorado at some point that will pick up the return flow?

Mr. AINSWORTH. A very great advantage, Senator. It will assure credit to the United States for the return flow and other flows that will appear in the river.

Senator HAYDEN. At what time would it be proper to ask you about some fears and doubts expressed by constituents of our in Arizona as to the desirability of building such a dam that might be damaging?

Mr. AINSWORTH. I have just a little more of my statement to make; then I will go on to that subject.

Senator HAYDEN. Then, go ahead.

Mr. AINSWORTH. Article 13 of the treaty provides for a study, investigation, and preparation of plans by the Commission for any needed flood-control works on the lower Colorado River below the Imperial Dam. These works would be located in both the United States and Mexico, and since they would be for the protection of lands located both in the United States and Mexico, including the United States lands in the Yuma Valley situated along both sides of the Colorado River, and the lands of the Imperial Valley, some of which lie at elevations below sea level, the proration of the cost of the works would probably result in a considerable expenditure by the United States. The necessity for these works will depend upon the bringing about of conditions in the river and in the delta area which may be long in developing. The obligation of the United States in this instance is one that at this time cannot be estimated with any degree of accuracy. The works should probably include a flood-control dam on the lower Gila River in Arizona in the vicinity of the Sentinel site and levees along both banks of the Colorado, where needed, from the Imperial Dam in the United States to the present head of the river delta in Mexico.

With regard to the Tijuana River, the treaty provides for a study, investigation, and report to the two Governments by the Commission, with recommendations for an equitable distribution of the waters of the stream, and with plans for storage, flood-control, and other works, and estimates of the cost of such works, including the manner in which they shall be divided between the two countries.

While the development of this plan will require extensive engineering surveys and studies, it is possible from data now available to make a preliminary estimate as to the total cost of works which might be involved in the plan for improvement of this river. The works, among others, will probably include a flood-control and storage dam located on the international boundary at what is known as the Marron dam site, and certain flood-control levees along the lower reaches of the stream. Such works will probably cost in the neighborhood of \$7,000,000, but the probable division of such cost as between the two countries cannot at this time be made.

Senator LUCAS. Why can it not be made?

Mr. AINSWORTH. Because we have not made the study, and we do not know what the division of benefits would be.

Senator LUCAS. How are the costs apportioned on the three dams?

Mr. AINSWORTH. What three dams?

Senator LUCAS. On the Rio Grande.

Mr. AINSWORTH. We have a basis consisting of three parts. Each Nation decides the conservation capacity needed in each reservoir. Based on the probable water supply to any one of those reservoirs,

there would be 60 percent to the United States and 40 percent to Mexico. That is, the waters running in the Rio Grande will belong to the United States and to Mexico in proportions of 60 percent and 40 percent.

Senator LUCAS. We will pay 60 percent of the cost, and Mexico 40 percent?

Mr. AINSWORTH. In general; however, there are other elements. Mexico buys the rights-of-way in her country, and the United States buys the rights-of-way in the United States, which would distort that percentage somewhat.

Senator LUCAS. Have you made an estimate of what those three dams will cost in the United States?

Mr. AINSWORTH. Yes, sir.

Senator LUCAS. What is that?

Mr. AINSWORTH. \$53,000,000.

The CHAIRMAN. And that can be reduced by reason of the amount of power that is produced?

Mr. AINSWORTH. Yes. Under the treaty the United States pays for half the power plants and receives one-half of the power, and the amortization by that revenue will pay for \$8,000,000 of the United States share of the cost of the dams—that is, in 40 years at 3 percent.

The CHAIRMAN. If you take a longer period, it would be a different figure?

Mr. AINSWORTH. Yes, sir. If you take a longer period, you will get another amount.

There is a further saving in the construction of those dams. They replace certain works planned on the gravity canal and storage projects on the lower Rio Grande, which was authorized by Congress, and appropriations made therefor, to be built by the Bureau of Reclamation. We estimate in round numbers the savings to be \$42,000,000.

The CHAIRMAN. In other words, if this project is adopted, that \$42,000,000 which has already been authorized and appropriated would not have to be spent?

Mr. AINSWORTH. Yes, sir; if the storage is furnished on the main stream.

Senator JOHNSON of California. Just explain yourself, will you, on the costs that you have just spoken of? Explain how that would be taken care of.

Mr. AINSWORTH. Do you mean in the matter of repayment of costs for those dams?

Senator JOHNSON of California. Yes.

Mr. AINSWORTH. A part of it would, of course, be taken care of by the power, and the Congress would have to enact legislation to determine how the balance of the cost would be handled.

Senator JOHNSON of California. Has not Congress legislated as to that?

Mr. AINSWORTH. No; I believe there is no legislation that applies to these international dams.

Senator JOHNSON of California. You think there is no legislation at all?

Mr. AINSWORTH. I believe not.

The CHAIRMAN. With the exception of the \$42,000,000 that has been authorized and appropriated, which would be turned back into the Treasury?

Mr. AINSWORTH. That is right.

Senator JOHNSON of California. Well, such a small amount as \$42,000,000 did not appear to you to be worthy of mention, did it?

Mr. AINSWORTH. Yes; I mentioned it twice, Senator.

Senator JOHNSON of California. You mentioned it?

Mr. AINSWORTH. Twice.

Senator JOHNSON of California. You may have mentioned it, but I did not hear it.

Mr. AINSWORTH. Yes, sir.

The CHAIRMAN. Go ahead, Mr. Ainsworth.

Mr. AINSWORTH. Article 12 of the treaty with Mexico provides for the building by Mexico, at her expense, of a diversion structure in the bed of the Colorado River below the upper boundary.

The CHAIRMAN. How many boundaries are out there?

Mr. AINSWORTH. They refer to them as two: The upper boundary is the northern boundary line, coming across the southern boundary of California, hitting the river at Yuma; and the lower boundary that is referred to, which, after starting 20 miles down the river, goes east, forming the southern boundary of Arizona.

The CHAIRMAN. All right.

Mr. AINSWORTH. If the structure is built in the boundary portion of the river—this is the diversion structure I am talking of—its location, design, and construction are subject to the approval of the Commission, which will thereafter operate the structure. Regardless of where it is located, the treaty provides for the building, at Mexico's expense, of such levees, interior drainage facilities, and other works, or improvements to existing works, as, in the opinion of the Commission, are necessary to protect lands within the United States. Each section of the Commission is to perform the work located in its own country.

The provision for the building of the diversion structure was considered necessary by the United States representatives in order that the United States could make use of all its return and drain flows in filling Mexico's schedules of delivery, thus proportionately reducing the draft on firm water. In other words, Mexico could not be expected to receive and be charged with the return waters and other flows in the river unless she was permitted to install the facilities needed for their diversion.

As noted above, if the structure is located in the boundary portion of the river, the Commission is to pass on its location, design, and construction. This provision gives the American section a voice in the determination of such location, design, and construction. It is proposed to submit the plans to the Bureau of Reclamation for its study and advance advice if the structure is to be located in the boundary portion of the river.

Senator HAYDEN. I note that the treaty provides that if the dam is to be located in the boundary portion of the river, it must be constructed within 5 years. Why was that provision included in the treaty?

Mr. AINSWORTH. That provision is in the treaty to guard against the possibility that American uses of the All-American Canal by the end of the 5 years might have reached such a stage that there would not be sufficient capacity in the All-American to deliver water by that method to Mexico.

Senator HAYDEN. But if they do not exercise the right to build this dam within 5 years, they can never build it and would be required to divert water from a dam located wholly within Mexico? Is that the way you understand it?

Mr. AINSWORTH. No. The provision of 5 years does not mean that Mexico could never build it if they did not build it within 5 years.

Senator HAYDEN. Article 12 of the treaty reads:

The two Governments agree to construct the following works:

(a) Mexico shall construct at its expense, within a period of 5 years from the date of the entry into force of this Treaty, a main diversion structure below the point where the northernmost part of the international land boundary intersects the Colorado River.

If they do not build it within 5 years, would they have a right to build it?

Mr. AINSWORTH. Well, perhaps not, unless they got an extension of time by agreement with the United States.

Senator HADEN. It is argued by some of our friends at Yuma that the present treaty with Mexico prohibits the construction of a dam of any kind that would obstruct navigation and that, therefore, if this treaty is not adopted Mexico could not build a dam within its own territory to divert water; and also it is argued that if that dam were immediately below the southern boundary, against Lower California, it would back up the water and still do damage to American lands by increasing seepage. What have you to say about that?

Mr. AINSWORTH. Well, as to the first part of your question, with reference to the prohibition upon Mexico, under the navigation clause, against building a dam at any time without this treaty, I believe that Mexico guarantees passage under the old treaty, and that if she proposed to build a structure that would permit passage of such boats as actually use the Colorado River, such a structure could be built.

Senator HAYDEN. It is a prohibition against impeding navigation by the construction of a dam?

Mr. AINSWORTH. That is my understanding.

Senator HAYDEN. If the dam had a lock in it, so that boats could come and go through the dam, then it could be built under the Treaty of Guadalupe Hidalgo?

Mr. AINSWORTH. That is my opinion; yes.

Senator HAYDEN. As to the dam upstream, above the Arizona-Sonora border, how high can that dam be built?

Mr. AINSWORTH. It is limited by treaty to the elevation of the water surface in the Alamo Canal during 1943.

Senator HAYDEN. What does that actually mean as compared with the water level or elevation now in the Yuma project?

Mr. AINSWORTH. It means it would not be changed by the dam.

Senator HAYDEN. That is, that the water level in the main stream of the Colorado River below Yuma could not be raised over what exists at the present time?

Mr. AINSWORTH. That is right.

Senator HAYDEN. As you run a line back from the level of the Alamo Canal, it works out that way from an engineering point of view?

Mr. AINSWORTH. Yes, sir. Actually we believe it would be slightly lower, because the diversion would be in Mexico and not about a mile upstream in the United States. There is some loss of head through

structures in the United States—through Rockwood heading and Hanlon heading—which Mexico can avoid in its construction of the new canal heading to a large extent.

Senator HAYDEN. As an engineer, would you say that the practical effect of building such a dam would be not to increase the amount of water that would seep into the land of the Yuma project?

Mr. AINSWORTH. Yes, sir. The water surface in the river will be no higher under ordinary flows than it has been for many years. To prove that point, the Imperial irrigation district has been diverting water to the Alamo Canal for the past 40 years, and Mexico does not need to divert water at any higher elevation.

Senator HAYDEN. Is the elevation of water in the river the controlling factor as to seepage from the adjacent lands in Arizona?

Mr. AINSWORTH. Yes, sir; that is the only factor that the river represents.

Senator McFARLAND. What kind of dam are you going to build? Are you going to put it down to bedrock, or are you going to build a floating dam?

Mr. AINSWORTH. It will be what is called a floating dam.

Senator McFARLAND. How far will it go down?

Mr. AINSWORTH. It will go down so that the floor of the dam is below the river bed, and the gates will be continuous—probably large radial gates, across the main part of the river, so that they can be raised in times of flood.

Senator McFARLAND. Is it not true, when you build any kind of dam, especially a dam that will go down to bedrock, that to the extent the dam goes down in the river, it raises the water somewhat and brings the water up to the surface?

Mr. AINSWORTH. Well, the water does not have to be any higher in the river to feed the Alamo Canal in Mexico than it is at present, so there would be no point in raising the water surface of the river. There would be no necessity for it.

Senator McFARLAND. If you do not have the dam down a little bit, the water will just go right under it. You cannot put the dam down on top of the river bed.

Mr. AINSWORTH. Yes; you put in cut-off piling, steel sheet piling—maybe three or four rows of it—to prevent undercutting of the dam, and you put the floor of the dam below the bed of the river perhaps 3 or 4 feet.

Senator McFARLAND. To some extent, at least, it is an advantage to put it down a way; is it not? You bring some water up and get the use of water which you otherwise would not be able to use if it were not for that dam; is not that correct?

Mr. AINSWORTH. I do not imagine there is very much underflow. The water that you are trying to divert is the water running in the river. I do not believe there is a great deal of underflow.

Senator McFARLAND. Do the other engineers agree with you on that?

Mr. AINSWORTH. I think so; yes, sir.

Senator HAYDEN. The language used by the Council of the Yuma County Water Users Association is:

That said proposed treaty provides that a permanent diversion dam be built by Mexico below the upper boundary within 5 years. This would be a dam built of earthworks and would be a permanent threat and danger to the Yuma

and Imperial districts and would be certain to cause seepage, which would make valueless lands in the Yuma, Bard, and Gila Valleys.

Is it to be a dam of earthworks?

Mr. AINSWORTH. No; it would be a concrete and steel dam.

Senator HAYDEN. Would it be a permanent threat and danger to the Yuma and Imperial districts?

Mr. AINSWORTH. No, sir.

Senator HAYDEN. Would it be certain to cause seepage which would make valueless lands in the Yuma, Bard, and Gila Valleys?

Mr. AINSWORTH. No; it would not cause any seepage. The seepage will remain the same as it is, since the river water surface is ordinarily where it is.

Senator HAYDEN. Article 12 of the treaty goes on to provide [reading]:

Regardless of where such diversion structure is located—

by that I assume is meant whether it is in the stretch of boundary water or down in Mexico proper?

Mr. AINSWORTH. That is what it means; yes, sir.

Senator HAYDEN (reading):

Regardless of where such diversion structure is located, there shall simultaneously be constructed such levees, interior drainage facilities and other works, or improvements to existing works, as in the opinion of the Commission shall be necessary to protect lands within the United States against damage from such floods and seepage as might result from the construction, operation, and maintenance of this diversion structure. These protective works shall be constructed, operated, and maintained at the expense of Mexico by the respective sections of the Commission, or under their supervision, each within the territory of its own country.

Just how are you going to operate a dam half way across the river?

Mr. AINSWORTH. Well, the Joint Commission will operate it.

Senator HAYDEN. Can they delegate the operation of it to an American agency, such as the United States Reclamation Service?

Mr. AINSWORTH. No; I believe not. It would be an international structure, if it is built across the international boundary line.

Senator HAYDEN. What aid do you expect to receive from the United States Reclamation Service with respect to the drainage facilities and other workers provided by the treaty to protect American lands?

Mr. AINSWORTH. We would propose to make a complete study of the situation there jointly with the Bureau of Reclamation, or if separately submit the results of the study and the details to the Bureau. This would be an endeavor to determine whether any additional works are needed; that is, such as the strengthening of existing levees, the deepening of drains or the extension of drainage ditches, and so forth, to bring about, as called for by the treaty, the protection of the lands in the Yuma Valley. •

Senator HAYDEN. Is there any other way of reducing the water level where seepage occurs than by pumping?

Mr. AINSWORTH. In the Yuma Valley they use open drains which take the water from the land and convey it to a point, in this particular case, down near San Luis, where it is pumped.

Senator HAYDEN. A pump finally has to take it up?

Mr. AINSWORTH. Yes; but in the upper part of the valley, that we are speaking of, there are open drains which hold the water down.

Senator HAYDEN. What becomes of the water which runs into these drains and is ultimately pumped?

Mr. AINSWORTH. It is either returned to the river in the international section, where the pumps will be located just above the boundary line, or it will be delivered to Mexico across the boundary line. In either case the United States will get credit for that water.

Senator HAYDEN. That is the point I want to make. If a dam is built for the purpose of picking up return flow, some of the return flow will come in below the dam because it is built in the international section?

Mr. AINSWORTH. Yes. In addition to that, the United States will get credit for any water reaching the boundary section of the river even if it is below the dam. There are some wasteways along that boundary section.

Senator HAYDEN. You say the treaty includes any water that may come into the Colorado River at any point above the Arizona-Sonora line?

Mr. AINSWORTH. From the United States; yes, sir.

Senator HAYDEN. If the water were pumped out and delivered directly on lands in Sonora, we would get credit for it?

Mr. AINSWORTH. Yes, sir.

Senator HAYDEN. As an engineer, do you think there is any mechanical difficulty in keeping the water table under control in the Yuma Valley?

Mr. AINSWORTH. No, sir. I perceive none whatsoever. It has been kept under control under almost identical conditions to those that will exist after the Mexican diversion dam is built.

Senator HAYDEN. According to a letter from its president, the board of governors of the Yuma County Water Users Association express the same view:

That no permanent dam be built in the Colorado River for the purpose of diverting water into Mexico.

Is it possible to carry this treaty into effect and obtain credit for the returned waters without a permanent dam?

Mr. AINSWORTH. No, sir.

Senator HAYDEN. The sole question is whether a permanent dam can be built which will not cause seepage from the rise of the water table on Yuma project lands?

Mr. AINSWORTH. That is right; and I believe it can.

Senator HAYDEN. Is there any doubt about that in your mind or in the minds of other engineers?

Mr. AINSWORTH. None that I know of. There is none in my own mind.

Senator McFARLAND. I just want to follow through on this a little. How much study have you given to this particular drainage problem, Mr. Ainsworth?

Mr. AINSWORTH. Well, it has been considered by the engineers of the Commission for about 2 years, and we have the data.

Senator McFARLAND. You say that nothing needs to be done, and that is one of the things that our people in Yuma fear—that you have such an opinion, and that their lands will become waterlogged and alkalized to where they would not be of any use before you reached an opinion that it needed to be done.

Mr. AINSWORTH. No. That is the reason we wish to make studies generally with or in consultation with the Bureau of Reclamation, so that there can be no question on that point. If works are needed, they can be built at the same time the dam is built.

Senator McFARLAND. Do you know whether the Reclamation Service has made any study in this regard?

Mr. AINSWORTH. No, I do not know that.

Senator McFARLAND. The Yuma water users have generally feared a dam in that part of the country, have they not?

Mr. AINSWORTH. Yes, I understand they have been opposed to a dam in that location for many years.

Senator McFARLAND. And have always done everything possible to prevent one from being built there?

Mr. AINSWORTH. I should like to point out, however, that there has been a dam in that location many times during the past years when the flow of the Colorado River was low. The Imperial irrigation district built barrage works there.

Senator McFARLAND. There would not be much danger?

Mr. AINSWORTH. If there was seepage there, it would raise the water surface. It would depend on the water height.

Senator McFARLAND. There is not much seepage when there is drought?

Mr. AINSWORTH. Well, there was water there, or they would not be diverting it.

Senator HAYDEN. It is true that through all the years, by court action and otherwise, the water users of the Yuma project have resisted the construction of a dam?

Mr. AINSWORTH. Of a permanent structure, yes; there is no question about that.

Senator McFARLAND. Why have they done that?

Mr. AINSWORTH. Because they were afraid of what they are now, I suppose—seepage principally. They apparently were more afraid of seepage than anything else.

Senator McFARLAND. I think those are all the questions I want to ask on that.

Senator DOWNEY. Is it not true that a court did grant an injunction against the placing of a permanent structure there, after a hearing and a finding by the court that it would endanger the land?

Mr. AINSWORTH. I have understood that the court did grant an injunction, but I do not know the details of the action.

Senator DOWNEY. Your idea was that the court was doing an unnecessary act in granting that injunction?

Mr. AINSWORTH. No. I imagine the court had sufficient grounds for granting the injunction.

Senator DOWNEY. You have just stated to us that you are very positive in your own mind that there is not any danger that might come to the lands from this permanent structure.

Mr. AINSWORTH. There is no danger from seepage, provided the existing works are looked over, and if they need further works; if such works are built simultaneously with the dam, there is no danger, Senator.

Senator DOWNEY. What other works?

Mr. AINSWORTH. Levee works and drainage works. Those, of course, are now in existence. They may need some alterations or betterments.

If they are needed, but they will be built at the same time the dam is built.

Senator DOWNEY. In fairness, is it not true that very able engineers in both Arizona and California hold very different views from what you have expressed?

Mr. AINSWORTH. I have not heard any different views.

The CHAIRMAN. Is that all, Mr. Ainsworth?

Mr. AINSWORTH. Yes, sir; that is all I have.

The CHAIRMAN. Are there any other questions?

Senator McFARLAND. You are not getting away now, are you?

Mr. AINSWORTH. Yes, sir.

Senator McFARLAND. There are a lot of questions that I want to ask you.

The CHAIRMAN. Proceed.

Senator McFARLAND. Maybe you are not the witness that I want to ask the questions of; but I want to find out about the basis for this return flow, the 900,000 acre-feet of return flow. Are you the one that is going to testify to that?

Mr. AINSWORTH. No; another engineer, Mr. Lowry, will testify to that.

Senator McFARLAND. Then I will not ask you any more questions.

**STATEMENT OF ROBERT L. LOWRY, ENGINEER, AMERICAN SECTION,
INTERNATIONAL BOUNDARY COMMISSION, EL PASO, TEX.**

The CHAIRMAN. Give the reporter your name and official title, please.

Mr. LOWRY. Mr. Chairman and Senators, my name is Robert L. Lowry. I am an engineer for the International Boundary Commission, the American section, at El Paso, Tex.

Senator JOHNSON of California. You will have to speak up a little louder.

Mr. LOWRY. I will try to, sir.

The CHAIRMAN. Raise your voice so that we can hear you. It is all right to print your statement in the record, but we are here to hear it. We could read it and stay at home, but we want to hear you. Please speak out. It is amazing to me how people like you and others cannot talk out. Speak out, now, and tell us about this matter.

Mr. LOWRY. Mr. Chairman, I will limit my remarks, which are few, to the Colorado River.

There are three general subjects that I will cover briefly—

The CHAIRMAN. You think you will. When questions start, it will not be brief. Proceed, however.

Mr. LOWRY. My statement will be brief. The questions may be longer.

Those three subjects are water supply, return flow, and irrigated areas as they presently are in the Colorado River Basin.

On water supply, the best estimate that we can make of the total water supply of the Colorado River, measured at the international boundary, and in terms of total production reaching the river, is approximately 18,131,000 acre-feet, annually. This is the figure obtained as an average of the virgin flow over a 47-year period, based on observations from 1897 to 1943.

Virgin flow may be defined as the natural flow as it would have been if not modified by the works of man.

The chart that was referred to yesterday by Mr. Lawson showed by five columns estimates that had previously been made of the virgin flow. (See p. 75.) The earliest estimate shown thereon was about 18,110,000 acre-feet, which estimate was made by the Bureau of Reclamation back in 1920 or 1922. It was submitted to Congress and was available, and was published in a report in 1922. That covered the years from 1903 through 1920; a comparatively short period.

Senator DOWNEY. Is that the same figure that you are using today?

Mr. LOWRY. No, sir. It is very similar to it. It is only 21,000 acre-feet different; but that is a figure that was published in the old Weymouth report of the Bureau of Reclamation.

Senator LUCAS. That was the average when?

Mr. LOWRY. From 1903 through 1920.

Senator LUCAS. Did you have anything previous to that time?

Mr. LOWRY. Some of the later estimates included figures for an earlier period. I will quote those as I go on, if you will permit me.

Senator MILLIKIN. Do you intend, before you complete your testimony, to give us the lows and the highs of that period?

Mr. LOWRY. I do not have those figures with me for any of those estimates. I have the average only, Senator Millikin.

Senator MILLIKIN. Senator Downey made a point the other day that I thought was a very good one, which was that in considering these problems consideration should be given periods of extreme shortage. I think we ought to have some figures that are more than average.

The CHAIRMAN. Can you obtain those figures from the Reclamation Bureau?

Mr. LOWRY. While I am in town I can probably obtain them. I do not have them with me.

The CHAIRMAN. Obtain them, then, please, and put them in the record.

Mr. LOWRY. I would like to answer Senator Millikin to this effect, that the low years become of less importance when you build storage on the river. You have already created the storage at Lake Mead to regulate those low periods, and also capture the highs; and other storage that is contemplated upstream will further regulate that and iron it out to where the average figures will be more readily obtainable and follow through with much greater consistency.

Senator MILLIKIN. Of course the storage is of interest to those below the storage?

Mr. LOWRY. That is right.

Senator MILLIKIN. The storage does not benefit those upstream. So the question is, How much storage, and where?

Mr. LOWRY. I will have a figure later on that bears on that question, Senator.

The CHAIRMAN. Your point is that storage dams have a tendency to level out?

Mr. LOWRY. Yes, sir. They iron out the irregularities. That is one of the chief purposes in creating the storage.

The CHAIRMAN. They have a stabilizing effect?

Mr. LOWRY. Yes.

Senator DOWNEY. While of course it is true that the storage in Boulder Dam and elsewhere will very much level out in a low decade

such as we have twice had in the last 47 years, if you would assume that those periods would last 20 years instead of 10 years, in your second period of 10 years the storage would not cover very much of it, would it?

Mr. Lowry. The best evidence we have to judge what the future may be is the record of what has happened in the past. In other words, we set up what the future flow may be and the range that it may extend over, more or less like it has in the past. That is all we have to go by. I do not know that there will be any 20-year periods of drought.

Senator Downey. But we in the Southwest would be in a very desperate condition if there was a 12-, 15-, or 20-year period, as we have had 10-year periods within the last 47 years. I understand the theory on which you are going, but whether that is a safe principle for the committee to act on is another thing.

Senator McFarland. I do not know whether or not Mr. Lowry is prepared to give this testimony, but with reference to this leveling out that you are talking about, there is a certain amount of loss by evaporation, and so one, and there is a certain length of time that you can store water on account of that evaporation, or when it is economically feasible to plan to store it, on account of evaporation. Is not that a fact.

Mr. Lowry. I would say that is true.

Senator McFarland. You may intend to cover that, or maybe it would be proper testimony for the Department of the Interior, but I thought that in order to make the record complete all of that could be explained by the witness without having to ask so many questions.

Mr. Lowry. I do not know the figures on that, but, as you say, evaporation continues, whether your water comes in or not, and some time, if the water stops, your storage is going to be exhausted. That is true of any reservoir. I do not know what the time requirement would be.

The Chairman. When it evaporates it has gone; it is neither in the river nor on the land?

Mr. Lowry. That is right.

Senator McFarland. Do you subtract the losses from this eighteen-million-odd acre-feet? You have not come to that yet. Pardon me for interrupting. I think it would be better, Mr. Chairman, if he would continue with his statement, and then we can ask our questions later.

The Chairman. I am willing. Go ahead.

Mr. Lowry. All right, Mr. Chairman.

Following the first estimate another estimate, indicating nearly the same figure, 18,380,000 acre-feet, was submitted and published in one of the Senate documents during the discussion on the Boulder Canyon Project Act. That was Senate Document 186, in which they quoted from the Water Supply Paper of the Geological Survey figures to indicate that average of 18,380,000 acre-feet. That estimate was based on an average covering the period 1895 through 1922. It did take in a few years earlier than Senator Lucas was asking about a few moments ago.

The next estimate of the total water supply was made in 1934 by one of the Bureau of Reclamation engineers, and was circulated under the title of Colorado River Flows. This estimate covered the period 1897 through 1934. There was estimated to be about 18,171,000 acre-feet. Again, a figure very similar to the average of recent years.

A few years later Jacobs and Stevens, in 1937, estimated the total supply as an average over the period 1902 to 1937, to be 17,850,000 acre-feet, which is somewhat lower than the previous figures.

It is significant that the difference between the lowest and highest of these estimates, based on both early and late figures, as averages before and after the drought period of the 1930's, is only about 3 percent of the total water supply.

The most recent estimate is made up as follows, and that is the estimate that I quoted from first: 18,131,000 acre-feet. These items go into that estimate:

The virgin flow, or reconstructed flow, as it is sometimes called, at Lee Ferry, 16,271,000 acre-feet; the inflow, Lee Ferry to Boulder, 1,060,000 acre-feet; the inflow from Boulder to Imperial Dam, 195,000 acre-feet.

The subtotal of those three items is 17,526,000 acre-feet.

Natural losses from Boulder to Imperial Dam were estimated at about 1,075,000 acre-feet, which, subtracted from the above, gives you a virgin flow at Imperial Dam of 16,451,000 acre-feet.

Senator McFARLAND. Are you going back to this 18,131,000 acre-feet?

Mr. LOWRY. I will get back to that in just a minute.

Senator McFARLAND. You are using the low figure now, are you not?

Mr. LOWRY. No, sir; I am building up to that 18,131,000.

Senator McFARLAND. Where did you get the 16,451,000? You used the 17,526,000 in arriving at this figure, did you not?

Mr. LOWRY. No. I started with the virgin flow at Lee Ferry, 16,271,000. That is the reconstructed flow at that point, and I am building up now to this total.

Senator McFARLAND. All right. Pardon me for interrupting you.

Mr. LOWRY. I might call attention to the fact that Imperial Dam at this point is above the mouth of the Gila River. That may have confused you there.

Senator McFARLAND. No. I knew where it was.

Mr. LOWRY. The virgin flow of the Gila has been estimated at 1,300,000 acre-feet, which, added to the virgin flow at Imperial Dam, gives a virgin flow at the boundary of 17,751,000 acre-feet. To this figure there has been added in our estimate for salvaged water below Boulder, 380,000 acre-feet, which makes a total of 18,131,000 acre-feet.

Senator MILLIKIN. Is that salvaged water as of the present time or estimated for the future?

Mr. LOWRY. That is an estimate of the future as further development takes place upstream.

Senator MILLIKIN. Over what period of time?

Mr. LOWRY. It is in terms of the development reaching ultimate conditions upstream, where we are using the virgin flow to start with, before anything was done on the river.

With respect to the above figure for salvaged water, no consideration is given to possible salvage that may be effected above Boulder Dam. Undoubtedly, as development in the upper basin takes place, there will be considerable savings in the natural losses. However, no estimate of the amount of such water has been made.

Senator McFARLAND. In what way?

Mr. LOWRY. In this estimate that I have given.

Senator McFARLAND. I mean, how do you figure that there are going to be some savings?

Mr. LOWRY. The savings will come about as the water is better regulated and we will be able to cut out the higher flood flows which periodically overflow the lowlands along the river, leaving the water trapped and exposed to wide areas of evaporative surfaces.

Senator McFARLAND. That will be done by other dams placed above Boulder Dam?

Mr. LOWRY. That will be done by other dams above Boulder Dam, that are contemplated and may be built.

Senator DOWNEY. Would that condition be affected at all by diversion of water in Colorado over to the eastern slope?

Mr. LOWRY. I would not think it would. That water that is diverted in transmountain diversions has a uniform flow, and when it comes down the stream, if left in the stream, would have very little effect on the natural losses. It is the flood flows on the western side that will be subject to regulation, bring about a salvage of water in the upper section.

Senator DOWNEY. Would the transmountain diversion of water in Utah or Wyoming affect your figure?

Mr. LOWRY. I cannot see that it would affect that figure.

Allocations of this water supply have been made as follows:

By article III (a) of the Colorado River compact there has been allocated to the upper basin $7\frac{1}{2}$ million acre-feet; to the lower basin, $7\frac{1}{2}$ million acre-feet.

By article III (b) of the same compact there has been allocated to the lower basin an additional million acre-feet, making the total allocated 16,000,000 acre-feet.

To be allocated under article III (c) and (f), the difference between 18,131,000 and 16,000,000 acre-feet, or 2,131,000 acre-feet.

The Mexican allocation, which was provided for under article III (c) of the compact, and as proposed under this treaty, is 1,500,000 acre-feet.

Senator DOWNEY. Will you repeat that last part, please?

Mr. LOWRY. The Mexican allocation which was provided for under article III (c) of the compact and has been proposed under this treaty, is 1,500,000 acre-feet. It leaves a residual of 631,000 acre-feet that may be later allocated under article III (f).

The CHAIRMAN. While the compact provides for the upper basin 7,500,000 acre-feet and a similar amount for the lower basin, as a matter of fact, neither basin now utilizes all of that water?

Mr. LOWRY. That is very true. There is only a relatively small portion of those total allocations being served at this time.

The CHAIRMAN. Have they ever been served?

Mr. LOWRY. They have never been served to date.

The CHAIRMAN. In any event, there will be a large amount available both to the upper basin and the lower basin, irrespective of this treaty?

Mr. LOWRY. That is right; for further expansion above present-day development.

The CHAIRMAN. Proceed.

Mr. LOWRY. The Mexican allocation of 1,500,000 acre-feet is expected to be made up as follows:

Return flow, 930,000 acre-feet; desilting water, 100,000 acre-feet; unused Gila flow, 100,000 acre-feet; making a subtotal of 1,130,000 acre-feet.

Senator DOWNEY. May I interpose with a question?

The CHAIRMAN. I think Senator Hayden was about to ask a question.

Senator DOWNEY. I beg your pardon.

Senator HAYDEN. I was just going to say that I am in very grave doubt about the amount of return water that you say will be available. You have got to show me.

Mr. LOWRY. I will go ahead and explain later where I think that is coming from.

Senator MCFARLAND. That will take some time. We will want to go into that somewhat in detail, Mr. Chairman. Maybe it would be better for us to pass over that, if we are going to recess before long.

Senator DOWNEY. Mr. Lowry, I understand from the testimony which you have given to this committee that you think that Mexico would have as good a treaty as is here proposed if the treaty were changed to give Mexico the return flow and these other items which you have mentioned, plus approximately 400,000 or 500,000 acre-feet of fresh water?

Mr. LOWRY. You said you believed Mexico would have good a treaty. Were you asking that question of me?

Senator DOWNEY. I say to you that under your statement Mexico would have just as good a treaty if, instead of being allocated 1,500,000 acre-feet of water, she were allocated in the treaty all of the return flow and these other items that you have mentioned, plus an additional 400,000 or 500,000 acre-feet.

Mr. LOWRY. The next statement that I was about to make indicates that that leaves a residual of about 375,000 acre-feet to be supplied from the main stream.

The CHAIRMAN. If the treaty, instead of having its present provisions, should have those suggested by Senator Downey, would not that necessarily involve the right of Mexico to come over into the United States and see whether she is getting the return flow and whether she is getting these other items, whereas under the treaty she simply gets what is allocated to her at the boundary, and we do not want any interference? It has already been suggested that the objection of some gentlemen is that this treaty would give the international commissioner the right to come over into the United States and interfere with our administration of internal affairs. Is not that true?

Mr. LOWRY. That is right. The question came up among the participants on the American side during the negotiations. We did not want anything in the treaty that would make it necessary for the Mexicans to come on this side and measure the water to see whether they were getting what they thought we should give them. Therefore, the amount of water was all lumped.

Senator DOWNEY. But, Mr. Lowry, you have very positively stated here that there will be something over 1,100,000 acre-feet that will inevitably and naturally return to the river at the boundary, and which we cannot use. Is not that correct?

Mr. LOWRY. I did not state it just that way, Senator. I have listed here as the return flow the other items that make up that 1,130,000 acre-feet.

Senator DOWNEY. Yes; but the only purport of your testimony is that there will be that much return flow that Mexico can have and that we will not be able to use. Is not that correct?

Mr. LOWRY. I think you are right in that. That water will be available down at the border. Some of that water could be used by pumping in this country. It is still in our country when it reaches the border.

Senator DOWNEY. How much of it?

Mr. LOWRY. I could not tell you exactly right now.

Senator DOWNEY. And whereabouts?

Mr. LOWRY. This water is expected to reach the boundary somewhere between the upper and lower boundaries; some of it above that point.

The CHAIRMAN. I assume the Senators will want to go to the floor of the Senate at this time, and I think it would probably be better to recess until tomorrow morning at 10:30 in this room. You will be here, Mr. Lowry, will you not?

Mr. LOWRY. All right, sir.

(Whereupon, at 12:15 p. m., a recess was taken until tomorrow, Friday, January 26, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

FRIDAY, JANUARY 26, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met pursuant to adjournment, at 10:30 a. m., in room 357, Senate Office Building, Senator Tom Connally, chairman, presiding.

Present: Senators Connally (chairman), Thomas of Utah, Tunnell, Johnson of California, Capper, and Austin.

Also present: Senators Downey, McFarland, Millikin, Murdock, O'Mahoney, and Wiley.

The CHAIRMAN. The committee will come to order.

Let the record show that Senator Thomas of Utah is absent this morning because he is presiding as chairman of the Senate Committee on Military Affairs.

STATEMENT OF ROBERT L. LOWRY, ENGINEER, AMERICAN SECTION, INTERNATIONAL BOUNDARY COMMISSION, EL PASO, TEX.—

Resumed

The CHAIRMAN. Had you concluded your testimony, Mr. Lowry?

Mr. LOWRY. Not quite, Senator.

The CHAIRMAN. Then, you may proceed.

Mr. LOWRY. Mr. Chairman, yesterday I concluded with a statement regarding the return flow that is expected down and available in the lower river. The figure, including desilting water and unused Gila flow, was 1,130,000 acre-feet. That leaves a residual of about 375,000 acre-feet to be supplied from the main stream, that being the amount which it is proposed to deliver to Mexico through the All-American Canal. Such an amount may be considered as the minimum that will have to be supplied from upstream, since in the event no Gila floodwater is available, the total quantity required will be increased by 100,000 acre-feet.

Senator McFARLAND. Did you say "minimum"?

Mr. LOWRY. That minimum to be supplied from upstream would be the difference between the 1,130,000 acre-feet and the 1,500,000 acre-feet.

Estimates of return flow to the lower Colorado River below Boulder Dam have been made before.

Jacobs and Stevens, consulting engineers, in 1937 estimated the return flow under two major assumptions. I should like to read one paragraph out of the authorization of that report. On the first page

of that report, under authorization and scope, it says this respecting authorization, and I quote from the letter of the Acting Secretary of the Interior to the Secretary of State, under date of September 2, 1937:

In your letter of June 22, 1937, you requested this Department to designate two outstanding engineers to prepare a confidential report on the water supply of the Colorado River for your guidance in negotiating a treaty with Mexico. Arrangements have been made to designate Mr. John C. Stevens, of Portland, Oreg., and Mr. Joseph Jacobs, of Seattle, Wash., for this purpose.

I wanted to show who those gentlemen were to whom I just referred.

Under assumption A, which involves full development of all feasible projects on purely physical considerations, except that California usage is based on her adopted priorities, the return flow was estimated to be 1,198,000 acre-feet. Net desilting water was expected to be 387,000 acre-feet in addition to the above.

Under assumption B, based on consideration of allocations made to the upper and lower basins in the Colorado River compact, the return flow was estimated as 900,000 acre-feet, with an additional quantity of 347,000 acre-feet from desilting water.

I want to say that those estimates are in fair accord with the figures I submitted yesterday.

This most recent estimate was participated in by a conference of well-known engineers from the Bureau of Reclamation in the office of the International Boundary Commission at El Paso, Tex., last month. At that time it was indicated that a total return flow of 930,000 acre-feet would be available in the lower river. Other waste water reaching the river would involve the minimum of 100,000 acre-feet for desilting purposes plus another 100,000 acre-feet of unused Gila water, making a total of 1,130,000 acre-feet of return and waste water.

It is my understanding that the details as to how this figure was derived will be taken care of later on, because I understand that the engineers who participated in that meeting will testify.

I want to speak a moment of irrigated areas. Figures available from the study of the Colorado River by engineers of the Bureau of Reclamation—

Senator McFARLAND. Pardon me. Would you prefer to complete your statement before we ask you questions in regard to that return flow?

Mr. LOWRY. That is just with you, Senator.

Senator McFARLAND. Well, whatever the chairman wishes.

The CHAIRMAN. That will be all right.

Senator McFARLAND. It will take some little time to ask the questions.

The CHAIRMAN. How long will it take you to finish your statement?

Mr. LOWRY. Just a few moments.

Senator McFARLAND. Very well. I will wait.

Mr. LOWRY. Figures available from the study of the Colorado River by engineers of the Bureau of Reclamation, and reported as for the year 1940, show a total area within the United States presently irrigated as follows: In the upper basin, 1,311,950 acres; in the lower basin, 1,323,300 acres; that makes a total of 2,635,000 acres.

The CHAIRMAN. Do you have any data to show how much water was consumed in the manufacture of power at Boulder Dam, which goes to Los Angeles and other California cities?

Mr. LOWRY. No, Senator, I do not have any figures on Boulder Dam or the power production; that is handled by the Bureau.

Senator TUNNELL. Do you have the figures showing how much of the 16,000,000 acre-feet that are allocated to the upper and lower basins is being used profitably now?

Mr. LOWRY. I have a statement just a little later on—one paragraph—that probably covers that figure.

The CHAIRMAN. I thought you just cited it a moment ago.

Mr. LOWRY. That was acres that I just read, Senator.

Senator TUNNELL. I want to know how much of the water is being used.

Mr. LOWRY. I have just given some figures on the acreage irrigated in the upper and lower basins.

The CHAIRMAN. Acre-feet is the standard of allocation, is it not?

Mr. LOWRY. Well, it does not always correspond to the number of acres.

The CHAIRMAN. I understand that; but the Senator asked you how much of the allocations in the north basin and the south basin were actually being utilized. The number of acre-feet being utilized would be the test, would it not?

Mr. LOWRY. That is right.

The CHAIRMAN. Did you not just state that a moment ago?

Mr. LOWRY. No, sir; I have just given you some figures on acres, not acre-feet.

The CHAIRMAN. I beg your pardon. Will you get to that in a moment?

Mr. LOWRY. Yes, sir; I have that right on the same page.

It is understood that 1944 figures would increase this total acreage in the Colorado River Basin in the United States to about 2,650,000 acres. That is a few more acres than were irrigated in 1940.

Mexico is now irrigating approximately 300,000 acres from the lower Colorado. About 200,000 acres of this is under the Alamo canal system, which prior to 1942 was used jointly for the supply of these lands in Mexico and the Imperial Valley in the United States. The remaining 100,000 acres in Mexico is scattered along both sides of the river, generally south and east of the area under the Alamo canal. The total area now being served from the Colorado River thus aggregates nearly 3,000,000 acres.

Senator TUNNELL. That is, for both Mexico and the United States?

Mr. LOWRY. That is right, 2,650,000 acres being in the United States and about 300,000 acres in Mexico.

As to present water use, the best estimate we have been able to get of the total water now being used for irrigation from the Colorado River in the United States, including uses in the Gila Basin, is about 6,200,000 acre-feet, which is less than 40 percent of the 16,000,000 acre-feet of water now allocated under the Colorado River compact.

Senator, I think that is the figure you asked for a moment ago.

Senator TUNNELL. Yes. I was going to follow that up with something.

Mr. LOWRY. Let me make one more statement, please. Mexico's use in recent years has approximated 1,800,000 acre-feet annually, and that is increasing. In other words, the development that is taking place in Mexico is increasing much faster than it is in the United States

today. The total use in both countries is about 8,000,000 acre-feet each year. During the last 4 years the average flow below all points of diversion from the Colorado River that was wasted into the Gulf of California has approximated 9,000,000 acre-feet. That is the average of the figures for 1941, 1942, 1943, and 1944.

The CHAIRMAN. Do you mean that that much water flows down into the Gulf of California unused?

Mr. LOWRY. Yes, sir; about 9,000,000 acre-feet in round figures. I should like to point out on this chart just what this use is up to the present time. (See fig. 8, p. 210.) The present use, extending from this point around to here [indicating], including use in the United States and also in Mexico, allows this much expansion that is yet to come.

Some of the talk about drying up acreage now irrigated just seems strange when you figure there is only this much of it now being used [indicating]. This much of it is water that is serving no useful purpose now [indicating].

Another thing I want to point out about this chart is that as the United States expands it will be allowed under this treaty to cut into the supply now being used by Mexico to the extent of 300,000 acre-feet, cutting Mexico back to 1,500,000 acre-feet. That is the ultimate figure.

That concludes my testimony.

Senator TUNNELL. I cannot understand why the increase in use in Mexico should be greater than in the United States. I presume you could not answer that?

Mr. LOWRY. No, sir; I could only give you my guess. They do not have such serious restrictions as we have had for the last 3 years due to war emergencies which are effective in this country. I have an idea that that has something to do with it.

Senator TUNNELL. The fact that we cannot get materials?

Mr. LOWRY. That is right. Under war regulations, development of that kind, which is not primarily for war purposes, has been curtailed in this country.

Senator TUNNELL. These 9,000,000 acre-feet are not used for any other purpose?

Mr. LOWRY. No, sir; that is water that is just waste. It spreads out over the flats and enters the head of the Gulf of California.

The CHAIRMAN. Senator McFarland?

Senator McFARLAND. Mr. Lowry, I want to go back to the return-flow water. How much return flow did you say you estimated would come from Arizona?

Mr. LOWRY. Well, the total that I quoted here was 930,000 acre-feet, not all of which would be from Arizona, however, Senator.

Senator McFARLAND. How much of that would come from Arizona?

Mr. LOWRY. I have not the details to break that down.

Senator McFARLAND. Mr. Lowry, unless you can go into this in detail, your testimony, as far as I am concerned, is not worth anything at all.

Mr. LOWRY. I am just reporting figures which were submitted to us. As I say, I think the details on that will be furnished to you by engineers who will appear later.

Senator McFARLAND. You yourself have not made any estimation on this at all, then?

Mr. LOWRY. Well, I have not been studying that river for years, Senator McFarland. I am just reporting figures, as I said, from what we take to be competent engineers, who will testify later.

Senator McFARLAND. Of course, Mr. Chairman, you have been very kind. I want to thank you for the courtesies you have extended to me during these hearings. I know that Senator Hayden appreciates them too. We are very much interested in this one thing. It appears that Mr. Lowry is just basing this on the testimony of someone else. I want very much to go into the details of why or how they arrive at these figures.

Mr. LOWRY. Senator, I can understand your interest in these figures. As I said, the engineers who will follow me will, I am sure, give you the figures in which you are interested.

Senator McFARLAND. Who are the engineers? Did you say?

Mr. LOWRY. Well, I had not named them, but the engineers who participated in the conference at which this last and latest figure was derived were Mr. Tipton, Mr. Ainsworth—

Senator McFARLAND. Mr. Ainsworth said he did not know anything about it, so you cannot include him. We excused him because he did not know anything about it.

Mr. LOWRY. The others were Mr. Riter and Mr. Page.

Senator McFARLAND. I might ask you just one or two questions.

I am not going to go into detail on this, Mr. Chairman. I feel that it would be a waste of time, and I know that the chairman wants to get along with the hearings as fast as he can.

Assuming, Mr. Lowry, that Arizona was going to divert 2,000,000 acre-feet of water into central Arizona and that there would be no return flow at all from that water, it would materially reduce this figure of 1,130,000 acre-feet, would it not?

Mr. LOWRY. Well, Senator, I do not see how that much could be diverted up there without there being some return flow. However, I do not set myself up as an authority on it.

Senator McFARLAND. There is no return flow from the water that is now being used there; you know that, do you not?

Mr. LOWRY. Well, that area is pretty well developed, and they are also pumping the return flow.

Senator McFARLAND. Yes; and they will do the same thing on the other. But if you are not prepared to go into that, there is no need of my asking you about it.

Mr. LOWRY. I am really not qualified to go into that discussion, I would say, Senator.

Senator McFARLAND. I think, Mr. Chairman, that I will wait until a witness appears who is prepared to testify and to justify that particular figure.

The CHAIRMAN. If the return flow of the areas now being irrigated is so much, the fact that 2,000,000 new acre-feet should be developed in middle Arizona would not in any wise reduce the return flow of that which you have already estimated exists, would it?

Mr. LOWRY. There would still be a sizeable return flow.

The CHAIRMAN. Well, whether there was or not, you would not reduce the return flow in the other areas you have estimated on. If

there is a decline of water—return flow—from the new development, it is not, however, in the development of the areas where it is.

Mr. LOWRY. That is very true.

Senator DOWNEY. Mr. Lowry, would you advise me as Senator from the State of California that, in your opinion, I could reasonably rely upon the fact that in the future, if this project is developed, there will be something in excess of a million acre-feet of return-flow water to Mexico that can be applied upon her allocation?

Mr. LOWRY. Senator, I would not like to advise you one way or another. I could say that from what I know about irrigation there is going to be some return flow.

Senator DOWNEY. We all admit that, but, in your opinion, from the data you have examined and from the opinion of your colleagues, that I know you have taken into account, will it be upward of a million acre-feet?

Mr. LOWRY. I have confidence that it will be somewhere in that neighborhood.

Senator DOWNEY. Do you think that if the Southwest can be asked to rely upon the prognosis of American engineers, Mexico likewise will have confidence in your judgment, so that she may make a treaty on that basis?

Mr. LOWRY. I assume that Mexico had figures of her own, Senator; otherwise I do not think she would have reached any agreement about the amount of water she would have been willing to accept.

Senator DOWNEY. Do you assume that her figures on return flow are the same as yours?

Mr. LOWRY. I have never seen her figures.

Senator DOWNEY. You think that we in California should rely upon this estimate that you are making here, but apparently you are not quite so certain that Mexico would be able to rely upon it?

Mr. LOWRY. Senator, I said I had confidence in it; I am not prepared to say what California should do.

Senator DOWNEY. In the way the treaty is drawn, the entire risk of this estimate being wrong—and we think it is obviously wrong—is upon the United States; Mexico does not take a risk, does she?

Mr. LOWRY. I would not think so.

Senator DOWNEY. You know she is entitled to 1,500,000 acre-feet of water, and if there are only 150,000 or 200,000 acre-feet of return flow, then the burden of that mistake falls upon the Southwest, does it not?

Mr. LOWRY. I do not know that you would put that as a burden of a mistake. The treaty was arrived at as providing so much water for Mexico. We have said it is our opinion that so much of that water would be derived from return flow.

Senator DOWNEY. Is it not true that representatives of the State Department, in selling representatives of the Colorado River Basin States on this plan, have converted them to the idea that there will be, to satisfy this allocation of 1,500,000 acre-feet to Mexico, upward of a million acre-feet of water?

The CHAIRMAN. May I intervene? I do not object to the fullest interrogation of the witness, but I do think it is a little unfair to ask him what the motives of the representatives of the State Department were.

Senator DOWNEY. I did not ask about their motives, Mr. Chairman.

The CHAIRMAN. You asked if they were not propagandizing, and so

forth and so on. But go ahead and ask the question; I want to be liberal.

Senator DOWNEY. Let me reframe the question, Mr. Lowry.

Is it not true that the representatives of the State Department, in discussing this matter with various representatives of the Colorado River Basin States, urged upon them as a fact that there will be upward of 1,000,000 acre-feet of water in return flow at the border—

Mr. LOWRY. No; Senator.

Senator DOWNEY. May I finish? That could be used to satisfy the Mexican allocation of 1,500,000 acre-feet of water?

Mr. LOWRY. No, Senator; that statement is not true. The State Department, so far as I know, has never urged upon the upper Basin States or the other States in the basin that are interested in this thing any figures. Our figures have largely come from the other States. We were just guided by the request that was made at the Santa Fe meeting that return flow should be taken account of, and it is estimated today as pretty close to 900,000 acre-feet.

Senator DOWNEY. Very well, Mr. Lowry; we can pursue that later.

Now, you used a rather peculiar expression, I thought. You said it seemed funny to you that any of the Colorado River Basin States would be anxious about their future water rights with all that large expansion that you pointed to on the chart indicating unused water.

Mr. LOWRY. I do not think you are using my words.

Senator DOWNEY. Then, repeat what you did say.

Mr. LOWRY. I should like to ask the reporter if he has that handy.

Senator DOWNEY. Well, I thought you used the expression that it seemed funny to you that we should be anxious about our water, or something of that kind.

Mr. LOWRY. No, sir; I did not use the words "water rights."

Senator DOWNEY. What was your expression?

Mr. LOWRY. As I can remember it, it was that it seems funny that there should be talk of drying up lands in the United States by the allocation to Mexico when these lands have never had a drop of water.

Senator DOWNEY. Let me ask you about some particular conditions existing in the State of California, Mr. Lowry. As you know, one of the water rights of the lowest priority in the State of California is 112,000 acre-feet for the city and county of San Diego; is not that right?

Mr. LOWRY. I have heard that.

Senator DOWNEY. You do not even know that?

Mr. LOWRY. I am not familiar enough with the priorities in California so that I could say I know it.

Senator DOWNEY. Let me say to you that it is one of our very lowest priorities. Do you know, Mr. Lowry, what flow we would have to have in the Colorado River to satisfy that particular right to the city and county of San Diego if we should grant 1,500,000 acre-feet of water to Mexico?

Mr. LOWRY. No, sir; I would not know just what flow would be required in the river.

Senator DOWNEY. Do you know whether or not in the periods of low flow, such as we have had twice in the past 47 years, there would be enough water in the river to satisfy Mexico's 1,500,000 acre-feet of water, if it is granted, plus the San Diego right? Do you know whether or not that is true?

Mr. LOWRY. I think it would be my opinion, Senator, that there will be water with the regulation that has been provided since those low-flow periods you have been talking about.

Senator DOWNEY. Then, Mr. Lowry, you are now expressing the opinion that if this treaty is made, there would be in the periods of low flow enough water to satisfy Mexico plus a right such as San Diego's in the State of California?

Mr. LOWRY. I would not say anything about the rights in California, because as I told you I do not know what those rights are.

Senator DOWNEY. Let me ask you this: If you felt or if you believed that the granting of this right to Mexico might imperil these lower priority rights in California, would you believe that this is a good treaty for the United States?

Mr. LOWRY. I do not think the treaty affects those rights, Senator.

Senator DOWNEY. Does not the amount of water that will be taken away affect the satisfying of the rights of the United States?

Mr. LOWRY. That affects a part of the water which was allocated by the Colorado River compact, or was set aside and provision made in the compact for allocation, rather.

Senator DOWNEY. Mr. Lowry, do you not know that the Secretary of the Interior has granted a contract to the city and county of San Diego for 112,000 acre-feet?

Mr. LOWRY. I understand that he has, subject to the availability of the water.

Senator DOWNEY. Yes, surely; and the more we give to Mexico, the less there will be available in the United States; is not that true?

Mr. LOWRY. Well, I assume that he had that in mind when he put that clause in the contracts—that at sometime there would be an allocation to Mexico.

Senator DOWNEY. Of course, Mr. Lowry; we all grant that. But that does not cover the question as to what that amount to Mexico shall be, does it?

Mr. LOWRY. The treaty cuts it down to 1,500,000 acre-feet.

Senator DOWNEY. Cuts it down from?

Mr. LOWRY. Cuts it down to, I say, 1,500,000 acre-feet.

Senator DOWNEY. Of course, you know that without Boulder Dam and before Boulder Dam, Mexico could use and was using only 750,000 acre-feet, do you not?

Mr. LOWRY. Senator, I am not so sure of that. The records would seem to indicate that that much flowed to her laterals. Well, in any kind of irrigation it takes more water than that which is to be consumed. More must be diverted to the laterals. I do not know how much the lateral losses are. I know what the losses are in the whole system over there, but I do not know that I could tell how much of it was chargeable to Mexico or how much to the United States. However, the 750,000 acre-feet that is frequently being quoted is a figure of water that was delivered to the laterals, some of it many miles from the river head, and the other losses had already taken place when that delivery was made.

Senator DOWNEY. Of course, Mr. Lowry, that is a fact that ought to be precisely determined, whatever it is. But let me ask you this: You would agree that in determining what Mexico's right should fairly be, it is most important to determine how much she was using

before Boulder Dam and how much she could have used only from the unregulated flow of the river?

Mr. LOWRY. Well, Senator, I do not think that the fact that it was before or after Boulder Dam has much to do with it. This treaty was negotiated at the end of 1943, and not before Boulder was created.

Senator DOWNEY. You are, then, of the opinion, in the settlement of this controversy, that it is not important to determine how much of the water that Mexico is now using is made available only because of Boulder Dam?

Mr. LOWRY. The statement was made in the testimony, I think, by Mr. Clayton, that for a period prior to the construction of Boulder Dam there had been enough water diverted from this unregulated river, half of which Mexico owned by virtue of allowing water to come through Mexico to make 1½ million acre-feet available to Mexico.

Senator DOWNEY. Perhaps I am in error, but I do not think you have answered my question. The question that I thought I was asking was this: You, then, do not think it is very important, as a matter of fact, right now, how much of the water that Mexico is now applying comes from and is only available because of Boulder Dam?

Mr. LOWRY. No, sir; I do not think that is a fact.

Senator TUNNELL. You stated that there was approximately 9,000,000 acre-feet being used at this time?

Mr. LOWRY. About 8,000,000, Senator. The 9,000,000 was that which was unused and which was wasting into the Gulf.

Mr. TUNNELL. You are figuring on 18,000,000 as the total?

Mr. LOWRY. I would not say that that makes up the total, because changes in storage in the reservoir could make up the difference.

Senator TUNNELL. What I was trying to get at was this: Of the 8,000,000 which you say was used, do you count the amount that they are using, that is, 1,800,000 acre-feet for Mexico?

Mr. LOWRY. Yes, sir; that was included.

Senator TUNNELL. After the use of the 8,000,000 acre-feet there is still 9,000,000 acre-feet that runs down the river?

Mr. LOWRY. Yes, sir.

Senator TUNNELL. And this return flow—I am not sure that I understand it entirely—is that return flow counted in the 9,000,000 acre-feet?

Mr. LOWRY. Such return flow as gets into the river now and is not used is mixed with the water that runs on into the Gulf.

Senator TUNNELL. Does that make the 9,000,000 acre-feet?

Mr. LOWRY. No, sir. Present uses do not return that much return flow. In other words, that 900,000 acre-feet of return flow which was mentioned a while ago is something that will only come about after full development of all the resources in the United States up to the full allocations under the compact.

Senator TUNNELL. How much is now being included in the 9,000,000 acre-feet that goes down the river; that is, how much of the return flow, if any?

Mr. LOWRY. It would probably be the return flow from the Yuma project plus whatever seepage there may be from the All-American Canal and the Yuma project which lies in California. I do not know what the figures are on those.

Senator TUNNELL. You do not have them?

Mr. LOWRY. No, sir.

Senator TUNNELL. All right.

Senator McFARLAND. It is unimportant what the return flow is until we have full development in the United States?

Mr. LOWRY. That is right, Senator.

Senator McFARLAND. You do not have the figures on which the statement was based, and you yourself have not made a study of the engineering data?

Mr. LOWRY. That is right, Senator.

Senator McFARLAND. Let me ask you this question: Do you know whether or not in making these estimates, credit was allowed Arizona for this return flow?

Mr. LOWRY. No, sir. I could not answer that, Senator.

Senator McFARLAND. You do know that there is plenty of land that this return flow could be used on, in Arizona, if the water were taken to central Arizona?

Mr. LOWRY. The Bureau figures on acres seem to indicate that.

Senator McFARLAND. I believe that is all.

The CHAIRMAN. I want to ask you one question. A little while ago Senator Downey, in asking you a question, said, "Would not the allocation of 11½ million acre-feet to Mexico entrench on the United States supply for its uses?" Under present conditions you say that 9,000,000 acre-feet of water is going down into Mexico, unused; is that right?

Mr. LOWRY. That is right.

The CHAIRMAN. Any entrenchment would be on that 9,000,000 acre-feet?

Mr. LOWRY. For many years the water that Mexico uses will be the surplus waters that are passing naturally out of the United States. There will not have to be anything withdrawn.

The CHAIRMAN. That is all.

The next witness is Mr. Charles A. Carson, of Arizona, speaking on the subject of the Colorado River.

STATEMENT OF CHARLES A. CARSON, ATTORNEY, COLORADO RIVER COMMISSION OF ARIZONA, PHOENIX, ARIZ.

The CHAIRMAN. Please state to the reporter your name, your residence, and your official connection, for the purpose of the record.

Mr. CARSON. My name is Charles A. Carson, Phoenix, Ariz. I am attorney for the Colorado River Commission of Arizona, and representing here the views of that commission, of the Governor, of the State land and water commissioner, and of the Arizona Legislature.

The CHAIRMAN. You are here, then, in the capacity of attorney for the Colorado River Commission of Arizona; is that correct?

Mr. CARSON. Yes, sir.

The CHAIRMAN. Proceed.

Mr. CARSON. I wanted to state to the chairman that I proposed to have at this time, when I was called, a mimeographed statement, with a copy for everybody. It is not yet ready. I am ready to proceed, and I would like to have the understanding that I can file that later when it is ready; and perhaps it will be ready before I am through here.

The CHAIRMAN. Without objection, that may be done.

Mr. CARSON. Then I would like to ask the chairman if he has a copy of the joint memorial of the Arizona Legislature.

The CHAIRMAN. The chairman has. I will hand it to you, if you want it.

Mr. CARSON. I have some copies here that I thought I would make available in the beginning.

The CHAIRMAN. The Chair will state that he has a communication from the Governor of Arizona conveying a certified copy of a resolution adopted by the State Legislature of Arizona. He will insert in the record at this point, without objection, both the letter and the memorial.

Senator McFARLAND. I do not know whether the Vice President has laid that before the Senate or not. It is entitled to be laid before the Senate.

The CHAIRMAN. The letter accompanying it is addressed to the chairman. You can present it, Senator, to the Senate as a joint memorial, requesting the Senate of the United States to ratify the treaty with Mexico relating to the waters of the Colorado River. It is addressed to the Senate of the United States.

Senator McFARLAND. It is entitled to be laid before the Senate.

The CHAIRMAN. If the Vice President did not receive a copy, he can use this, and we can use a mimeographed copy for the record.

(The letter from the Governor of Arizona is as follows:)

EXECUTIVE OFFICE, STATEHOUSE,
Phoenix, Ariz., January 16, 1945.

HON. HENRY WALLACE,

Vice President of the United States,

Senate Office Building, Washington, D. C.

MY DEAR VICE PRESIDENT WALLACE: I am enclosing herewith certified copy of Senate Joint Memorial No. 2 of the Seventeenth Arizona Legislature, being "A joint memorial requesting the Senate of the United States to ratify the treaty with Mexico relating to the waters of the Colorado, Rio Grande, and Tia Juana Rivers." which memorial was adopted by the Arizona State Senate on January 11 last without a dissenting vote, and adopted by the house of representatives on January 12, there being only 1 dissenting vote cast by that body.

May I not hope that you will present this memorial to the Senate? And it is also my hope that you will aid in every way possible to the end that the above-mentioned treaty between the United States and the Republic of Mexico be ratified at the earliest possible moment.

With all good wishes, I am,

Sincerely,

SIDNEY P. OSBORN, *Governor.*

(The joint memorial referred to is as follows:)

STATE OF ARIZONA

SENATE, SEVENTEENTH LEGISLATURE, REGULAR SESSION

SENATE JOINT MEMORIAL No. 2

A JOINT MEMORIAL Requesting the Senate of the United States to ratify the treaty with Mexico relating to the waters of the Colorado, Rio Grande, and Tia Juana Rivers

To the Senate of the United States:

Your memorialist represents:

That it is the belief of this body that the pending treaty between the United States and Mexico, respecting the waters of the Colorado, Rio Grande, and Tia Juana Rivers, signed at Washington, D. C., February 3, 1944, as clarified by the protocol signed November 14, 1944, will, as it pertains to the waters of the Colorado River, prove very beneficial to the United States and to the State of

Arizona. Wherefore, your memorialist, the Legislature of the State of Arizona, requests:

1. That your honorable body ratify the proposed treaty at the earliest possible date.

Adopted by the senate January 11, 1945.

Adopted by the house January 12, 1945.

Approved by the Governor January 15, 1945.

Filed in the office of the secretary of state January 15, 1945.

The CHAIRMAN. That is a very good introduction for you, Mr. Carson.

Mr. CARSON. I would like, first, to take a minute to tell you that I think that we in Arizona have as keen an appreciation of the value of the use of water as the people in any part of the United States and that water is as valuable in Arizona as it is anywhere in the United States.

The CHAIRMAN. I think that is true. I have been to Yuma.

Mr. CARSON. We approach this problem of this treaty with the intent and desire to hold the apportionment of water to Mexico at the lowest possible point, and our whole study and our whole effort have been directed to that point. I have been in the conferences with members of the State Department and the International Boundary Commission during the period of the preparation and the negotiation of this treaty, as have representatives of all of the other Colorado River Basin States.

An intimation has been made that there might be involved in this treaty a trade of Colorado River water to Mexico for water for Texas, but I want to tell you that so far as I know there was no such trade. At least this matter was put up to the Colorado River Basin States to consider it solely and alone as it related to the Colorado River Basin, and to work out in the minds of the representatives of those States as to whether or not a treaty with Mexico was desirable at this time and, if so, what was the largest quantity of water that we would think would be favorable to the United States. We approached it in that manner and with that purpose, from which we have never wavered.

With that preface, then, the controlling considerations to us in Arizona are really three: First, the continued flow through Mexico of excess quantities of water which Mexico, we believe, can put to use prior to their use in the United States, and thereby obtain, in our judgment, a right to the continued use of those waters. We know that in the United States it will probable be 40 or 50 or more years before we in the United States in the upper basin, as well as the lower basin, can utilize the waters that we have apportioned by the Colorado River compact, and that in the meantime large amounts of water will flow through Mexico to the Gulf of California, and that the Mexicans can, with less cost and less effort, use that water in Mexico than we can use it in the United States, and in a much shorter time.

Our engineers state that each year since Boulder Dam was put in operation there has gone out of the United States, across the border into Mexico, in excess of 10,000,000 acre-feet of water. I think our figures show for 1941, 12,000,000 acre-feet; in 1942 something in excess of 11,000,000, and in 1943 between 10,500,000, and 11,000,000 acre-feet. That, of course, includes water that is now utilized in Mexico.

Senator O'MAHONEY. Is there any agreement, Mr. Carson, among the engineers as to the exact quantity of water which goes across the border into Mexico?

Mr. CARSON. I think there is substantial agreement, Senator.

Senator O'MAHONEY. I have read all sorts of figures varying from 7,000,000 to the 12,000,000 that you have now mentioned. That is a very big margin—5,000,000 acre-feet.

Mr. CARSON. I am glad you asked that, because I wanted to make it clear that I think Mr. Lawson, who used the figure of 7,000,000 acre-feet, is naturally very conservative in his estimates and statements, but that also it related to water actually flowing into the Gulf of California after having deducted from the flow across the border the amount now used in Mexico.

The CHAIRMAN. May I say for the information of Senator O'Mahoney—I do not know whether he was here or not when Mr. Lowry was speaking—that Mr. Lowry testified that on the average it was in excess of 9,000,000 acre-feet.

Senator O'MAHONEY. My purpose in asking the question was to develop whether or not there was substantial agreement among the engineers with respect to this point.

Mr. CARSON. Yes; I think there is.

Senator O'MAHONEY. What would you say, then, on the basis of your understanding of what they all say, as to the amount of water that is delivered to Mexico?

Mr. CARSON. I should say that I think they will agree, Senator. I have not talked to them all, of course.

Senator O'MAHONEY. They will agree on what figure?

Mr. CARSON. That not less than 10,000,000 acre-feet has crossed the border from the United States into Mexico since the filling of Boulder Dam.

Senator O'MAHONEY. Thank you.

Mr. CARSON. In that connection, there is another point that I would like to try to make as I go along, which should be handled by an engineer. But I am the only one from Arizona to present Arizona's views, so I think I should go into it.

It has been indicated that all of the water in Lake Mead and behind Boulder Dam is stored water. To a considerable degree that is true. The storage does regulate the regimen of the river below to a considerable extent, but it is impossible for the United States to store all the water in Boulder Dam and stop it from flowing across the border into Mexico. When the dam is once filled, then the stream is restored to its natural state except as the storage regulates the regimen of the stream below.

So, in our view, then, it will be 40 or 50, perhaps more, years before the flow through Mexico is substantially reduced below 5,000,000 acre-feet, and in our view there is available in Mexico land for utilization of that water, according to our Arizona engineers, aggregating 1,300,000 acres, which could be irrigated with the water of the river. That includes some land which would require a pump lift, but not to exceed 60 feet.

Senator DOWNEY. Would there be any possibility of Mexico's irrigating that body of land you have mentioned except by the diversion of the water within the United States through the Alamo Canal?

Mr. CARSON. I have to rely on engineering opinion on that, Senator. I am not an engineer and am not qualified to state, but our engineers say that there would be, and that in Mexico, below the Arizona border, which is the lower boundary, there could be diverted from the main stream and put on Mexican lands a substantial part of that water.

Senator DOWNEY. Do you think that she could put on as much as a million acre-feet if she could not divert within the United States?

Mr. CARSON. I think so; I think, greatly in excess of that amount.

Senator DOWNEY. And the opinion that you are here expressing to the committee is based upon the opinion that Mexico could appropriate and apply large amounts of this water, even though she could not use any diversion works in the United States?

Mr. CARSON. In the United States or on the border reach of the river.

Senator DOWNEY. That is one of the bases of your opinion?

Mr. CARSON. Yes, sir.

Senator DOWNEY. In reaching the conclusion you have reached?

Mr. CARSON. Yes, sir.

Senator DOWNEY. If, as a matter of fact, by a development of it as an irrigation proposition, Mexico could not even hope to have 750,000 acre-feet except by the assistance of works in the United States, would your opinion as to this situation be changed?

Mr. CARSON. I do not think it would, Senator Downey.

Senator DOWNEY. So, then, it really does not make any difference to you whether Mexico could successfully appropriate all this water and establish the right to it?

Mr. CARSON. Yes; it does make a difference; but I think that in your question you are asking me to assume the contrary of all the information that I have.

Senator DOWNEY. Very well.

Senator TUNNELL. Just listening to the witnesses it seems that there are 3,000,000 acres being irrigated, and it is taking approximately 9,000,000 acre-feet of water. Is that a fair average; that is, 3 acre-feet of water to an acre?

Mr. CARSON. I think that is a fair average, Senator, as an estimate for the beneficial consumptive use of lands within the lower basin.

Senator TUNNELL. Then, for the 1,300,000 acres in Mexico you figure it would take 3,000,000 or 4,000,000 acre-feet?

Mr. CARSON. Yes, sir. I think, 5,000,000 to 6,000,000 acre-feet, which, of course, so far as we are concerned in the United States, would mean that we could not divert it in the United States because Mexico would have acquired a right to divert the quantity of water which was necessary for her beneficial consumptive use.

Senator TUNNELL. And she may do that unless there is a treaty?

Mr. CARSON. Unless there is a treaty definitely limiting Mexico for all time to the lowest possible quantity of water.

Criticism has also been made of this treaty because it is a permanent treaty. That is the only kind of a treaty that we would agree to for Arizona. It must be permanent. We must know that there will not in the future be an increase in Mexico's claim.

Our engineers and the Bureau of Reclamation are now making surveys and investigations in Arizona for the utilization of Arizona's share of this water, and it is very important to us to know the extent of Mexican requirements in order that we may plan sound projects

and run no risk of overexpansion, later to be reduced by the Mexican demands. That is one of the reasons that Arizona is taking the position she is here.

Senator DOWNEY. May I also intervene with this question: I understand that your opinion is also based upon the belief that citizens of Mexico would acquire an appropriative or prescriptive right to the use of the water even though it comes from Boulder Dam?

Mr. CARSON. Well, I would not try to define it quite that much, Senator. The engineers with whom I have talked as to estimating the proportion of water that has been actually stored in Boulder Dam, as distinguished from the natural flow of the stream, state that a very small percentage of the water diverted and utilized below Boulder has ever been stored in Boulder Dam. I think your question assumes that all of the water that comes down the river is stored water in Boulder Dam, and I think that the figures would show by engineers who are competent and who have made studies that actually since the operation of Boulder Dam the quantity of water utilized below, which you consider as stored water in Boulder Dam, would be something around or less than 5 percent.

Senator DOWNEY. Mr. Carson, let me simplify my question. So far as water that Mexico appropriated and used temporarily, or permanently, came from Boulder Dam, would you then say that citizens of Mexico would get a prescriptive right to that against the people in the United States, so far as it comes from Boulder Dam?

Mr. CARSON. Yes; I think they would.

Senator DOWNEY. Then your opinion is based upon the assumption that citizens of Mexico would get a prescriptive right against the people of the United States by utilizing stored water that comes down from Boulder Dam?

Mr. CARSON. Senator, I will have to qualify your use of the term "prescriptive right." I would say an equitable right. It may not be a prescriptive right in the sense that there would ordinarily be any tribunal which could enforce that right; and as long as your question uses the word "prescriptive" it carries with it the connotation that there would be some tribunal to adjudicate and enforce that right. But if Mexico utilizes water that flows through Boulder Dam and puts it to beneficial use before we do in the United States, we fear that they would create an equitable right which the United States will recognize.

Senator DOWNEY. Let me ask you this question. If Lower California were an American State—that is, a State of the United States, and its citizens were citizens of the United States—do you think they could acquire this right by the use of these waters from Boulder Dam?

Mr. CARSON. Let me answer your question this way, Senator Downey. I believe that if there were no international boundary and Mexico was another State of the United States which was not a party to the Colorado River compact, and they brought an action against the States of the Colorado River Basin in the Supreme Court of the United States, they would today be awarded not less than 1,800,000 acre-feet of water, because they have put it to use prior to the establishment of any rights of the upper States.

Senator DOWNEY. Thank you, Mr. Carson. You have very directly and plainly given me the answer that I want. You do think, then, that, measured by the law of the United States as it now exists, Mexican citizens are entitled to 1,800,000 acre-feet of water?

Mr. CARSON. Yes.

Senator DOWNEY. And if the contrary should be true, then your opinion, I assume, of course, would be different?

Mr. CARSON. There is no way that we can determine that, Senator Downey, because Mexican users of water cannot get into the Supreme Court of the United States. So we are considering things that could not occur. But, following your first assumption, if Mexico were another State of the United States, and therefore, could get into the United States Supreme Court, and had put to use 1,800,000 acre-feet of water prior to our uses in the Colorado River Basin, I think they could maintain, and the Supreme Court would decree to them, the right to continue the use of that quantity of water.

Senator DOWNEY. When you say 1,800,000 acre-feet, you are not making any distinction as to whether that would come from the natural unregulated flow of the river or from Boulder Dam?

Mr. CARSON. I think perhaps I am assuming this way, that there would be in the natural state of the river—and I think this would be borne out by engineers' estimates before Boulder Dam was built or since—that there would in ordinary years be 1,800,000 acre-feet available for use in Mexico. I do not think that the fact that Boulder Dam is built across the main stream of the river has converted the natural flow of the river into stored water.

Senator DOWNEY. Then it is further your opinion that as of the time Boulder Dam was built, which I think was 1935, with the water rights and appropriations existing in the upper and lower basin States and with the water that was being diverted in the irrigation season and in periods of low flow, there was still available out of the natural flow of the river 1,800,000 acre-feet of water for Mexico?

Mr. CARSON. Yes. Our engineers state to us, Senator Downey, that in their opinion, before Boulder Dam was built, and under the natural conditions of the river, it would have been possible for Mexico to utilize around or slightly less than 2,000,000 acre-feet of water; and their analyses are based upon the low flows in the river.

Senator DOWNEY. You mean, such a decade as we had in the 1930's?

Mr. CARSON. No; I mean prior to the construction of Boulder Dam. I do not think that they have related it to the 1930 decade; and I would go so far as to say, in my opinion, that it would still have been available, because I have here a record of water that flowed across to Mexico during the period that Boulder Dam was filling, before and since, and I would like to refer to it to make it clear. It does include the 10 years to which you refer.

According to our engineers, there flowed across the Mexican border the following quantities of water in the following years: 1920, 20,349,200 acre-feet; 1921, 18,674,300 acre-feet; 1922, 16,320,000 acre-feet; 1923, 17,207,700 acre-feet; 1924, 10,610,800 acre-feet; 1925, 11,671,000 acre-feet; 1926, 11,469,800 acre-feet; 1927, 16,339,900 acre-feet; 1928, 12,090,900 acre-feet; 1929, 16,758,800 acre-feet; 1930, 9,783,300 acre-feet; 1931, 4,350,400 acre-feet; 1932, 13,806,000 acre-feet; 1933, 7,871,900 acre-feet; 1934, 2,486,500 acre-feet.

From 1935 to 1940, I take it, was the period that Boulder Dam and Lake Mead were filling. 1935, 3,963,300 acre-feet; 1936, 3,228,300 acre-feet; 1937, 3,618,700 acre-feet; 1938, 3,768,900 acre-feet; 1939, 6,369,200 acre-feet; 1940, 5,218,900 acre-feet.

By that time Lake Mead was filled.

In 1941 there flowed across the Mexican border 12,891,900 acre-feet; 1942, 11,748,900 acre-feet; 1943, 10,667,200 acre-feet.

Senator DOWNEY. Mr. Carson, do you happen to have, there, the run-off by months?

Mr. CARSON. No, sir.

Senator DOWNEY. Do you just happen to know what was the run-off say in 1934, in June, July, and August, at the boundary?

Mr. CARSON. No, sir.

Senator DOWNEY. Do you know whether there was any water in the river?

Mr. CARSON. No; I do not know, except as our engineers have reported.

Senator DOWNEY. Well, all right.

Mr. CARSON. Of course, Senator Downey, that was during the period that the Boulder Dam was filling.

Senator DOWNEY. No.

Mr. CARSON. Lake Mead was filling. No—1934. No; before it began.

Senator DOWNEY. Let me ask you this. If as a matter of fact in those years, say the early thirties, there was not enough water in the river in July and August and June and September to satisfy even 750,000 acre-feet of water for Mexico's irrigation season, would that affect your judgment?

Mr. CARSON. No, sir; not as to the right of those Mexican land-owners for an "equitable right" as I have tried to define it for the water which they had theretofore put to beneficial use. In other words, I do not think water rights are destroyed by droughts; they still exist. There might not be enough water in the river to supply it, but they still have the water right, and when the water becomes again available in the river their right takes its usual priority.

Senator DOWNEY. You mean, Mr. Carson, that they have actually appropriated and used water?

Mr. CARSON. That is right.

Senator DOWNEY. All right. Well, all right—before Boulder Dam filled, how much water had Mexico actually applied to Mexican soil?

Mr. CARSON. I think the figures used here are approximately correct; Senator Downey—750,000 acre-feet delivered into their laterals. I would like to tell you where we all get that is from the report of the American section of the International Water Commission, headed by Dr. Mead, which was contained in a report transmitted to Congress in 1930. Now, as to subsequent to 1930, I am not prepared to say except by the calculations made by our engineers, for the water used in Mexico in 1943 and subsequent to the filling of Boulder Dam.

Senator DOWNEY. Well, Mr. Carson, I am, of course, entirely ready to agree that that figure of 750,000 is approximately correct, and I am likewise willing to agree that to whatever extent Mexico had used that water she would have acquired an appropriative right.

Mr. CARSON. Yes.

Senator DOWNEY. But are you saying now because there were tremendous floods of water that came down in other months of the year than that could be used, in the great flood seasons of ten, eleven, or twelve million acres, after Boulder Dam was built, sir, that Mexico acquired any right to that, if she was not using it?

Mr. CARSON. No, sir.

Senator DOWNEY. Then how do you work it out so Mexico up to the time of Boulder Dam had acquired rights on the Colorado River to any more than 750,000 acre-feet? No; I just mean up to the time of Boulder Dam.

Mr. CARSON. In this way, Senator, because there was the Colorado River flowing through the United States into Mexico. In its natural state Mexico had a right I would think, some kind of equitable right to utilize the water flowing through her territory, and the limit on that right was what she could use in her economy without interfering with upstream uses then obtaining in the United States.

Well, now, the limiting factor on the Mexican use in my judgment and the judgment of our engineers was not lack of water but it was economic conditions in Mexico; the same as we in Arizona and California have not yet completely developed our uses of the water of that river, and the same as the fact that the upper basin has not yet completed its water uses. Now, what we are trying to do by advocating the ratification of this treaty is to prevent increased claims of Mexico arising prior to the time we use the water of the river in the United States.

Senator DOWNEY. Mr. Carson, if I understood that last statement of this, you were saying this, that to the extent there was water available for Mexico in the irrigation seasons, that she could use it, that had not theretofore been appropriated and used in the United States, that Mexico would be entitled to utilize that water later even though she was not utilizing it at the time Boulder Dam was built; is that what you were saying?

Mr. CARSON. Senator Downey, it is confusing here because you keep wanting to ask me about legal rights as though there were a court that could adjudicate this question. There is no court as I understand it that can adjudicate it unless it be the court of arbitration that was set up by the Inter-American Treaty of Arbitration; so I do not think that you can view this matter purely and simply upon a basis of legal rules or principles that we in the United States would recognize in our courts.

Now, here is Mexico downstream, a sovereign nation, with her own theories of law and her own courts. There is no way that she can get into our court, there is no way that we can get into her court, to have any court adjudicate these problems.

Then when you come to the question of fair and equitable dealing between nations, on the question of the utilization of international streams, in my studies of this I find the only rule is by treaty; and in the treaties you find they have made provision usually for future expansion in the lower country. It is a matter of comity and fair dealing between nations here, so you cannot say because Mexico had not utilized more than 750,000 acre-feet of water that that would be the limit of her share that might be awarded to her by a court of arbitration such as is set up by this Inter-American Arbitration Treaty. There is no comfort in those things.

Senator DOWNEY. Mr. Carson, may I ask this question: Are there any reservoir sites in Lower California in which Mexico could store any of these floodwaters?

Mr. CARSON. No, sir; I think not.

Senator DOWNEY. Do you think that this comity or equity that should be displayed toward Mexico should go so far as to give her the beneficial use of reservoirs constructed at our expense in the United States?

Mr. CARSON. Let me answer that this way, Senator Downey.

Senator DOWNEY. Well, if you could answer it "Yes" or "No."

Mr. CARSON. Well, I can answer it, I think, and make my position a little clearer, if I answer it this way, that we cannot keep Mexico from getting benefits by the construction of Boulder Dam. There is no way on earth we could stop Mexico from getting benefits; and they are already getting benefits.

The fact that Boulder Dam has storage capacity to store floodwaters has now in Mexico reduced the danger of floods down the river, and it has now equated the flow below Boulder Dam that flows through Mexico; so I should say that it is possible now for Mexico to greatly increase its use of water over what it could have done had Boulder Dam not been built; so that when you say that we must not let Mexico have any benefit of the construction of Boulder Dam, it is a physical impossibility.

Senator DOWNEY. I know that, Mr. Carson, and I know that Mexico already has reaped very rich rewards from the construction of Boulder Dam.

Mr. CARSON. Yes.

Senator DOWNEY. But, of course, my question had not to do with general benefits such as preventing floods and that type of thing; but let me ask you this: Are you of the opinion, if and when the people of the United States are in a position to fully utilize all the benefits of Boulder Dam, if and when we are, 10, 20, 30, or 40 years from now, we should then be compelled in equity and good conscience to allow Mexico to have any more water than she could get out of the unregulated flow of the river, or than she was actually using prior to the construction of Boulder Dam, whichever is larger?

Mr. CARSON. Senator Downey, I wanted to get to that matter later, but I will answer it now. As I read this Inter-American Treaty of Arbitration which was signed in 1929 and ratified by the Senate in 1935, the United States has agreed that at Mexico's request it would arbitrate the question of the share of the water of the Colorado River to which Mexico might become entitled. Now, that treaty of arbitration provides for a court of arbitration of five, who are given almost plenary power to decide, as I read it, and we have agreed in advance, for the United States, that their decision shall be final and binding and without appeal; again, as I read the treaty.

Now, in view of that situation, if Mexico in my judgment increased her use now since the operation of Boulder Dam to five or six million acre-feet and then invoked that arbitration treaty the chances are that that court of arbitration so constituted would award to Mexico for all time the use of the quantity of water which she was then using, unless we have by agreement with Mexico, to which she has agreed, placed an over-all all-time limit on her claim of right.

Senator DOWNEY. Then this is a very improvident and absurd treaty for Mexico to make in view of your statement, is it not?

The CHAIRMAN. I do not think that is quite proper.

Senator DOWNEY. Mr. Chairman, it seems to me it is a fair question to ask.

Mr. CARSON: I do not mind answering it, if you wish.

The CHAIRMAN. Well, go ahead, then; but for you to so interpret the intentions of Mexico is certainly stretching language pretty far.

Mr. CARSON. The compensating advantages of this treaty to Mexico seem to me to be that she is assured of the delivery of this quantity of 1,500,000 acre-feet at times that fit her farming seasons and demands within her schedules of delivery, and free of cost. Now, I think there are compensations to Mexico in this treaty. I do not want to be misunderstood here as saying that I think Mexico is getting no compensation—they are, in that way.

Senator DOWNEY. Mr. Carson, you are basing your opinion that this is a good treaty for the United States upon your belief that if we do not make this treaty Mexico may acquire and be upheld in the beneficial use of—I think you said—five or six million acre-feet. What was it?

Mr. CARSON. The possibility of five or six million acre-feet.

Senator DOWNEY. Now, Mr. Carson, just one more question, because my mind is slightly confused on just what you said to me in answer to one of my questions; and then that is all, Mr. Chairman.

Now, did you state to me that you did believe the rights of Lower California and its citizens should be determined by the same rules that we would apply to our own citizens in such a case as this?

Mr. CARSON. Well, that is another broad question, Senator Downey. I do not think that you can measure this question between two sovereign nations according to the domestic law of either. It comes then into the question of the comity of nations and international relationships, to figure it out on a fair, square, and equitable basis, whether or not that basis in the end would conform to the local law, the domestic law within the United States or the domestic law within Mexico.

Senator DOWNEY. But you did state in your opinion that under the laws that we follow here in the United States Mexican citizens would be entitled to this allocation of 1,800,000 acre-feet of water?

Mr. CARSON. I believe as I said before, Senator, that if the International boundary were not there and if Lower California were another state of the United States which had not joined the Colorado River compact, and as of today had put to use and utilized beneficially 1,800,000 acre-feet of water as she has, prior to utilization of that water in the upstream states, that the United States Supreme Court would award her the continued use of that 1,800,000 acre-feet.

Senator DOWNEY. Well, that is a very direct answer, and thank you, Mr. Carson, very much. That is what I wanted to elicit.

The CHAIRMAN. Senator Tunnell wanted to ask one question.

Senator TUNNELL. Mr. Carson, when you used the figure 1,300,000 acres of land in Mexico that could use water for irrigation purposes, did you include the amount now being irrigated?

Mr. CARSON. Yes. There is another estimate of lands in Mexico. There have been several estimates made. There are several here of 800,000 acres or thereabouts. Engineers do not always agree on the quantities of those lands. This 1,300,000 acres that we estimate is there was derived by our engineer, Don Scott, after personal inspection of lands in Mexico, and including some land that would require not to exceed a 60-foot pump lift. The American section of the International Water Commission, United States and Mexico, in this report—which by the way is a very valuable report in connection with this

treaty question; it is House Document No. 359, Seventy-first Congress, second session, and was transmitted to Congress in 1930—on page 91 of that report it estimates the total irrigable land in Mexico at 1,961,900 acres, but then it raises the pump lift; I think the greatest pump lift that it shows is 75 feet.

Our engineers took a pump lift of not to exceed 60 feet.

Senator TUNNELL. Did our engineers state how much was now being irrigated in Mexico?

Mr. CARSON. At that time?

Senator TUNNELL. At that time.

Mr. CARSON. Yes, sir.

Senator TUNNELL. How much was that?

Mr. CARSON. I do not know that I can immediately find the table. Their offer to Mexico at that time, when they were trying to negotiate a treaty, was based upon the utilization of water in Mexico measured in laterals, and in their offer they offered Mexico 750,000 acre-feet delivered at their laterals, so I would assume that was the greatest use that Mexico had then made. Now, to that 750,000 acre-feet delivered at the laterals this old American section of the International Water Commission offered to add such water as might be necessary to compensate for evaporation and seepage losses prior to the time this water reached the head of the Mexican laterals.

Our engineers have advised us that in their judgment that would be somewhere between 20 and 30 percent additional, which would make somewhere between 900,000 and 1,000,000 acre-feet; and then in that 1929 offer further they advised Mexico that Mexico in addition would get the benefit of all return and excess flows reaching the border, which our engineers, now—and ours agree in the main here with the engineers of the International Boundary Commission—that the return flow including desilting water would be somewhere between a million, and, some of our engineers estimate, as high as 1,375,000 acre-feet return flow, depending upon the points of use and the quantity of use of water which we hope to use in Arizona under developments which have not yet been made, and those estimates of return flow, and I take it these estimates here, are the estimates of the return flow which will arrive in the border reach of the river below Imperial Dam, when all of us in the United States have reached our full utilization of every drop of water possible to be used in the United States.

Senator TUNNELL. And that is considerably in excess of the amount provided for Mexico under this treaty?

Mr. CARSON. Yes; if our engineers are right, the 1929 offer was less favorable to the United States than this treaty.

The CHAIRMAN. All right, Mr. Carson; go right ahead.

Senator McFARLAND. Just one question I would like to clear up.

The CHAIRMAN. All right.

Senator McFARLAND. Mr. Carson, when you stated that under our law Mexico would have acquired a water right to 1,800,000 acre-feet it sounded as if you were assuming that they could have acquired a right in the Boulder Dam. You did not mean to state that, did you?

Mr. CARSON. No.

Senator McFARLAND. You were basing your opinion upon this, as I understood it from your later testimony, that even though we are assumed to have appropriated when we built the Boulder Dam, all the water that could be beneficially used under the dam, there was still left

in the normal flow of the river sufficient water to have acquired a water right to 1,800,000 acre-feet, in Mexico?

Mr. CARSON. In Mexico, yes; which was the natural flow of the stream; yes.

Senator McFARLAND. And you are not coming here and saying that when we build a dam we do not acquire a water right to the water that that dam will store?

Mr. CARSON. No; I do not want to be so understood.

Senator McFARLAND. I just wanted to clear up your testimony.

The CHAIRMAN. Let me ask you a question, there, Mr. Carson. You are talking about Boulder Dam as if it, in itself, amounted to an appropriation of all the waters in the river. We built the dam, Mexico did not build it, and we built it for our own uses?

Mr. CARSON. Yes.

The CHAIRMAN. But irrespective of whether there is a dam in the river or whether there is not, the water that reaches the Mexican border is subject to appropriation by Mexico, until we get a treaty, is it not?

Mr. CARSON. That is right.

The CHAIRMAN. Whether it comes out of Boulder, or comes out of some other dam, or some canyon, or some rivulet, or whatever the source, if it gets to the Mexican border it is subject to appropriation by Mexico for beneficial uses, is it not?

Mr. CARSON. Yes, sir.

The CHAIRMAN. So, whether it comes out of Boulder or whether it does not, what difference does it make?

Mr. CARSON. I do not know that it makes any particular difference, except that Boulder Dam does have some influence on the regimen of the stream below, including that going through Mexico. In my judgment that makes it very desirable for the United States to make a treaty limiting Mexico to the lowest possible quantity of water, at the earliest possible time.

The CHAIRMAN. Thank you.

Senator McFARLAND. Mr. Carson, I believe you stated something there that you did not mean. If a man builds a dam and thereby appropriates a million acre-feet of water, the date of the appropriation is upon the date of the building of the dam, is it not?

Mr. CARSON. Yes.

Senator McFARLAND. And you do not mean to state that if someone else, before he can get his land in, starts to use that water, that he acquires a prior right to the man that has appropriated it?

Mr. CARSON. No; I do not mean that at all, Senator. I mean this, that here is an international question. The question is not measured, as I said before, solely by the domestic law of the United States, any more than it is solely by the domestic law of Mexico. Now, we have built Boulder Dam, and Congress has provided that nobody can get water out of Boulder Dam except by contract with the Secretary of the Interior; so we in the lower basin have made and will make more contracts with the Secretary of the Interior for the delivery of water from Boulder Dam to lands in the United States; but now that has not, as I understand the thing, entirely made it impossible for Mexico to divert and utilize any water that comes to her that we do not hold. I think it would still flow through Mexico to the Gulf until somebody utilizes it; and I do not think our appropriation of that water within

the United States would be a complete or a sufficient answer to any claim that Mexico might build in the future upon future use, increased use, of the water of that river.

Senator McFARLAND. I was just trying to clear that up, so as to be sure that you did not make the statement in regard to the law which you did not mean.

The CHAIRMAN. I did not mean to imply that by my question about the waters in the dam.

Mr. CARSON. Oh, no; I know.

The CHAIRMAN. The point I made was that if the water gets to the Mexican border, it is immaterial where it comes from.

Mr. CARSON. That is right.

The CHAIRMAN. Whether it comes from the dam, or some tributary, or where, if it gets to the Mexican border it is subject to utilization.

Mr. CARSON. Yes, sir.

The CHAIRMAN. That is right, is it not?

Mr. CARSON. Yes, sir; I think that is right.

The CHAIRMAN. There are 9,000,000 acre-feet now going down the river unappropriated?

Mr. CARSON. Yes, sir.

Senator McFARLAND. There is just one other point, Mr. Carson, I think possibly, that might make it a little bit clearer in the record, here, as to the meaning of your testimony. If I understand your testimony correctly—you will pardon me for interrupting you—

Mr. CARSON. Surely.

Senator McFARLAND. Before the Boulder Dam was built, as I understand from reading the various reports and statements made by those who are presumed to know what existed in Mexico, one reason why there had not been more water put to beneficial use was because some of the land was flooded.

Mr. CARSON. Yes.

Senator McFARLAND. A large portion of it was flooded. Now, when the dam was built, that regulated the stream, and this benefit which is received from the dam is measured a lot by flood control?

Mr. CARSON. Yes.

Senator McFARLAND. Now, as I understand your position, what you are stating is, there isn't anything in the law, so far as water law is concerned, which would prevent someone from acquiring a water right on some land that was previously flooded, just because the water had been removed from it after a dam was built?

Mr. CARSON. That is right. That is exactly right. I think Mexico also gets benefit from our Arizona dams on the Gila. They also hold back floods and help remove from Mexico the danger of floods.

Senator McFARLAND. What I am getting at, I am trying to distinguish between the benefit of the regulation of water and the flood control; that one reason Mexico had never developed this land, and largely the reason as I understand it, from the testimony, here, and from what I have read, is because these lands were flooded; but, now that those floods have been stopped, it is easy to put the water to beneficial use.

Mr. CARSON. Yes.

Senator McFARLAND. And as I understand by the testimony of Mr. Ainsworth, I believe it was, yesterday, he stated that there was sufficient water that had done down the river, and so from your testi-

mony, and other testimony, that they could have put the normal flow, regardless of flood control to beneficial use.

Mr. CARSON. Yes.

Senator McFARLAND. I mean regardless of Boulder Dam.

Mr. CARSON. Yes.

Senator McFARLAND. Even if it had not been there—this 1,800,000 acre-feet of water?

Mr. CARSON. Yes, sir.

Senator McFARLAND. Thank you very kindly. I just wanted to clear that up.

The CHAIRMAN. Proceed, Mr. Carson.

Mr. CARSON. I think I have pretty well covered our theory of the increased Mexican use and our fear of this Inter-American Treaty of Arbitration. I would like to say this further on that point, that Arizona has always been fearful of this Mexican question of the Mexican burden, and I think it was 1925, it might have been 1927, when the Arizona Legislature passed a memorial requesting the Department of State to notify Mexico that the United States would never recognize any greater right. That notification was not made, and I have personal knowledge—I appeared for the Colorado River commission of Arizona—and I was then their attorney in 1933 when we tried again to get the State Department to notify Mexico that the United States would never recognize any greater right; and that notification was not given.

Then, when this Inter-American Treaty of Arbitration comes, and we see that the United States, in our judgment, in its position in the world, would arbitrate with Mexico at Mexico's request, and that Mexico is now using 1,800,000 acre-feet of water per year and rapidly can increase that use, why then we think it is very material to all of us that want to use the water in the United States from the Colorado River that a limit be put on Mexico at the lowest possible quantity, good for all time; and that is our position.

The CHAIRMAN. You think, then, this treaty will amount to Mexico's giving up 300,000 acre-feet that she is now utilizing, and denying her water in the future?

Mr. CARSON. Yes, sir; that is right; and we are looking at it selfishly, but I think, selfishly, from the long-range point of view, for the best interests of us all.

Senator DOWNEY. Mr. Carson, before you leave that point, now, you have been emphasizing that the Secretary of State never notified Mexico to some effect—you were not quite definite—about this water supply. Now, it did not notify her to what effect?

Mr. CARSON. That the United States would never recognize any right in Mexico to the use of any greater quantity of water than Mexico was using prior to the construction of Boulder Dam.

Senator DOWNEY. Well, do you not think the Mexican Government was so notified by a very much higher authority than the Secretary of State?

Mr. CARSON. No, sir.

Senator DOWNEY. Did not Senator Pittman, in language so plain that everybody could understand it, serve notice that Mexico should not be entitled to water for more than 200,000 acre-feet, or for more than 750,000, making a statement that that is all she had ever used and

all she ever could use out of the unregulated flow of the river? And isn't it true that within 24 hours after that statement by Senator Pittman, the Congress of the United States passed a law in which it provided precisely that all of the beneficial uses in the Boulder Dam should belong to the people of the United States?

Mr. CARSON. Yes.

Senator DOWNEY. Exclusively?

Mr. CARSON. I think that is true, Senator.

Senator DOWNEY. Well.

Mr. CARSON. I think that was in the Boulder Canyon Project Act.

Senator DOWNEY. Could you have any stronger pronouncement in words and meaning from a higher authority than the Congress of the United States?

Mr. CARSON. No; I do not think you could. Do not misunderstand me, there. I am not basing my opinion on this treaty on the fact that the State Department failed to notify Mexico to that effect. I do not consider now that any notification made by the State Department, or that notification that you refer to in the Boulder Canyon Project Act, has any binding force or effect upon Mexico and this international situation.

Senator DOWNEY. I see. Mr. Carson, you emphasize that the Secretary of State did not give this notice to Mexico, but still it is immaterial that the Congress acted in the matter?

Mr. CARSON. I was coming to this, Senator Downey—that on both those occasions your State, California, did not join us in requesting any such notification. Now then, I come to this point—

Senator DOWNEY. But is it not possible that our State was willing to rest upon the solemn enactment and promise of Congress and the contracts given by the Secretary of the Interior under that act?

Mr. CARSON. That might have been true in 1933. The act had not been passed at the time the Arizona Legislature passed that memorial.

Now, I come to this part of the statement that I desire to make, and I have to review a little history here to show a danger to the United States which seems to me to be apparent. It has been referred to here briefly.

In 1895 and beginning along there, the development of the Imperial Valley in California and the Mexicali Valley in Mexico was undertaken by the same interests, the Chandler interests, as we have learned to call them, in California. An application was made to the Mexican Government for permission to divert 10,000 cubic feet per second of water. Under Mexican law they organized a Mexican corporation to utilize and carry out the delivery of water to the lands in the Mexicali Valley. That Alamo Canal was built and water diverted for both the Imperial Valley in California and the Mexicali Valley in Mexico. A good deal of the Mexican lands were later owned by these Chandler interests. I am not sure when they acquired those Mexican lands.

The CHAIRMAN. You are speaking of Mr. Chandler, who resided in Los Angeles and owned the Los Angeles Times?

Mr. CARSON. I am speaking of Mr. Harry Chandler, who formerly owned the Los Angeles Times, and who died last fall.

The CHAIRMAN. I just asked that in order to have the identification in the record, so we would know about whom you were talking.

Mr. CARSON. Yes. Now the Chandler interests wholly owned and controlled the Mexican subsidiary interests which held this concession from the Mexican Government to divert 10,000 cubic feet per second from the Alamo Canal, and under that concession, as has been suggested, one of the conditions was that half of the water flowing through that Alamo Canal should be utilized or available for use in Mexico.

I think it is true that prior to the construction of Boulder Dam for many years there was diverted through that Alamo Canal in excess of 3,000,000 acre-feet of water, which was utilized upon the Mexican lands and in the Imperial Valley of California, and under that concession 1,500,000 acre-feet or more was legally available for use in Mexico, had economic conditions permitted its use.

That condition continued there until 1916 or thereabouts, when the old California Land Development Co., on the United States side of the border, so far as the water delivery system was concerned, was succeeded by the Imperial irrigation district of California, which also at the same time acquired the Mexican subsidiary corporation, in Mexico; and it is my understanding that today the Imperial irrigation district of Mexico wholly owns and controls the Mexican subsidiary corporation which delivers water to Mexican lands, still, through the Alamo Canal, and under this original concession from the Mexican Government, which I understand to be still in full force and effect.

The CHAIRMAN. Let me ask you a question, there, just to have the information in the record. The Alamo canal began on the river inside Mexico, is that right?

Mr. CARSON. No. At first, it began shortly upstream on the American side of the border and went down below the border and turned west through the Alamo canal, and then back into the Imperial Valley.

The CHAIRMAN. What I meant was, it then passed through Mexican territory, and then back into the United States, to deliver the water to the Imperial Valley; is that right?

Mr. CARSON. Yes, sir; that is right.

The CHAIRMAN. So the canal is partly in Mexico, partly in the United States?

Mr. CARSON. Yes, sir; that is right.

Senator DOWNEY. Mr. Carson, it might make it plainer to explain. There has been a change there now by construction of the All-American Canal, so the Imperial Valley lands can be reached without going through Mexico?

Mr. CARSON. Yes. I was coming to that. I do not think it is inferable from what I said, but I will stop to make it clear that since then passage of the Boulder Canyon Act, the All-American Canal has been built. The All-American Canal has been built to supply the lands in the Imperial and Coachella Valleys of California, without passing through any Mexican territory.

The CHAIRMAN. They constructed part of the Alamo canal in Mexico?

Mr. CARSON. So far as the service of the American lands was concerned.

The CHAIRMAN. In the Imperial Valley?

Mr. CARSON. But not so far as the service of the Mexican lands was concerned, and still, the Mexican subsidiary of the Imperial irrigation

district, last year, and I think for the last 2 or 3 years—I haven't got all those figures clear—but they have delivered through the Alamo canal for use upon Mexican lands in excess of 1,000,000 acre-feet of water a year. In 1924 Mr. Chandler testified before a House committee here.

The CHAIRMAN. Is that 1,000,000 a part of the 1,800,000 they are utilizing?

Mr. CARSON. Yes, sir.

The CHAIRMAN. Do the Chandler interests still own the land in Mexico?

Mr. CARSON. No, sir; I am not prepared to say that they do. I was going to refer to that in a moment. Mr. Chandler testified before the Committee on Irrigation and Reclamation of the House of Representatives, on May 7, 1924, which is reported in a hearing before the Committee on Irrigation and Reclamation, the House of Representatives, 68th Congress, first session, House Resolution 2903, part 7, page 1563, that at that time he and his associates owned some 830,000 acres of land in Old Mexico, and that between 500,000 and 600,000 acres of that were level and irrigable from the main stream of the Colorado River.

Now, this report of the American section of the International Water Commission, United States and Mexico, House Document No. 359, states that at the time of this report in 1930 the company of Mr. Chandler and his associates still owned 800,000 acres of land in Old Mexico. I think that was the condition that obtained when the contract and the plans and specifications for the construction of the All-American Canal were made and adopted; and there is in the All-American Canal an excess capacity of 3,000 cubic feet per second from Imperial Dam to Pilot Knob drop. I do not know the present ownership of the Mexican lands. I have been unable to ascertain any documentary evidence as to who owns those lands, but it in a sense is immaterial because the lands are still in Old Mexico, and they are still thirsty for the water of the Colorado River and the Imperial irrigation district plans to deliver water through Pilot Knob drop for the generation of power, and the water would be at the tailrace of the Pilot Knob wasteway, at a point from which it could not be again utilized in the United States, but from which it is a very simple matter to take it across the line into the Alamo canal for utilization upon Mexican lands. Now, the revenue that the Imperial irrigation district gets from its Mexican subsidiary corporation for deliveries through the Alamo canal system are of course dependent upon the quantity of water delivered. It also, I am informed, seeks to make an additional charge against Mexican landowners for delivery of water to the extent of this 3,000 cubic feet per second, or such part of it as could be utilized in Mexico and the Mexican owners for diversion from Imperial Dam through the All-American Canal down to Pilot Knob and across the border.

The CHAIRMAN. At this point, if it is agreeable to the committee, I suggest a recess till 2:30. Several Senators have engagements they have to meet, and, Mr. Carson, you be prepared to go on, and after Mr. Carson, we have, Senator, some of your California witnesses.

Senator DOWNEY. Mr. Chairman, I feel some degree of diffidence in making any statement of the case. Of course, Senator Johnson is in charge of our witnesses. Then, I would like to say to the chairman that you did state to me yesterday, I thought very plainly, that

you would not expect the California witnesses to proceed until Monday, and I so informed them, Mr. Chairman. Now, in addition to that, I would like to say this: I believe that Senator Johnson, if he had been here, could suggest a somewhat different order of witnesses; and could the chairman allow that matter to go over until this afternoon, when I think Senator Johnson may be able to be here?

The CHAIRMAN. All right.

Now, Mr. Carson, are there other witnesses from Arizona, other than yourself?

Mr. CARSON. Not to my knowledge.

Senator McFARLAND. Mr. Chairman, there may be some witnesses who will want to appear at a later date. They have indicated to me that they would, and if they do not, there is certain documentary evidence in opposition to the treaty that I would like to put in.

The CHAIRMAN. All right. We will be in recess.

(Whereupon, at 12:20 p. m., the committee recessed until 2:30 p. m. of the same day.)

AFTERNOON SESSION

The committee reconvened at 2:30 o'clock p. m., upon the expiration of the recess.

STATEMENT OF CHARLES A. CARSON—Resumed

The CHAIRMAN. Come forward, Mr. Carson.

We were hearing this morning, Senator Johnson, the testimony of Mr. Carson, representing Arizona water users. He did not conclude his statement, so we will have him go ahead now.

Mr. CARSON. Mr. Chairman, I have now received the statement that I asked consent to file.

The CHAIRMAN. Very well.

Mr. CARSON. I was just coming down to the question of the delivery of water by the Imperial irrigation district to Mexico. The All-American Canal was designed and constructed with an excess capacity down to Pilot Knob of 3,000 cubic feet per second. It is our understanding that the Imperial irrigation district planned, and still plans, to build a power plant at Pilot Knob. From the discharge of that power plant and the tail race of the Pilot Knob drop it is not possible to again pick up and utilize water in the United States. It is possible and feasible to put that water immediately across the adjacent Mexican boundary into the Alamo Canal for use on Mexican land. I think that plan has not been abandoned. I think that in 1943 the Imperial irrigation district applied to the Commissioner of Reclamation and to the Secretary of the Interior for authority to deliver through that means, by diversion at Imperial Dam, transportation through the All-American Canal to Pilot Knob, and through that drop to Mexican lands additional water.

The CHAIRMAN. As a matter of geography, is Pilot Knob the point on the All-American Canal where it comes out of Mexico into the United States?

Mr. CARSON. No; the All-American Canal is altogether in the United States.

The CHAIRMAN. Where is Pilot Knob?

Mr. CARSON. Its intake is at Imperial Dam, and Pilot Knob is the point on the canal where the canal turns west to go to the Imperial Valley. Pilot Knob is approximately, I think, a little more than a mile from the border. You cannot pick up water there again and use it in the United States; you can put it in the Alamo canal and use it in Mexico.

The Imperial district made such an application in 1943 and, I am informed, made such an application again in 1944; and I am informed that it made application to the War Production Board last fall—1944—for priorities, for materials to construct that Pilot Knob power plant, notwithstanding the fact that there are in the All-American Canal five drops for the development of power, with the water going to the Imperial Valley of California, which could be installed, and that the water going through those five drops could be again utilized for irrigation in the United States.

Well, now, 3,000 cubic feet per second continuous flow amounts to 2,190,000 acre-feet a year or thereabouts.

In 1935 the Imperial irrigation district made an application to the old P. W. A. for an allocation of money with which to build that Pilot Knob power plant and in that application recited that it was its purpose to divert at Imperial Dam and carry through Pilot Knob power plant 4,500 cubic feet per second of water, which would amount to in excess of or approximately 3,000,000 acre-feet a year.

The CHAIRMAN. Is it your point there that if that were done at Pilot Knob, it would be equal to the appropriation of that amount of acre-feet of water that could not thereafter be used in the United States but must be released to Mexico?

Mr. CARSON. That is it; and for that service of the delivery of that water through the All-American Canal, the Imperial irrigation district sought to impose an additional charge upon Mexican land-owners over and above that which they now pay for delivery through the Alamo Canal and thus obtain additional revenue.

Well, now, in view of that fact, of the plan for the delivery through the All-American Canal of that water to Mexico, if that were permitted to continue, Mexico through that means could obtain, in our judgment, 2,000,000 acre-feet of water and, in addition, would obtain all the return flow that enters the reach below Imperial Dam, which is the outlet for the All-American Canal.

Further, in view of that fact, Senator Downey's question to me to whether it would be possible for Mexico to divert water without works in the United States becomes immaterial, because the works are there in the United States: The Imperial Dam, the All-American Canal, and Pilot Knob, through which the Imperial irrigation district plans to deliver that water to Mexico.

I want to touch upon another phase of this thing before I go on, and that is the Boulder Dam. Arizona has an interest in Boulder Dam. We obtain as revenue paid into our State treasury from power at Boulder Dam \$300,000 a year. We have reserved for our use, and we hope to take, and now have plans in process for the utilization of, 18 percent of the power developed at Boulder Dam, which is reserved for our use. We now have a contract with the Secretary of the Interior to deliver to us for irrigation purposes at Boulder Dam 2,800,000 acre-feet of water per year plus one-half less one twenty-fifth of the surplus

available for use in the lower basin. So we are very directly concerned in the welfare of Boulder Dam.

I think that the word "guarantee" used in connection with the financing of Boulder Dam as here stated, perhaps unintentionally, conveys the wrong impression of what occurred in the financing of Boulder Dam. The money was appropriated by the Congress, and the United States paid for Boulder Dam. The act required that before construction should be commenced, the Secretary should obtain contracts for the power and water service which would, in his judgment, be sufficient to repay to the Treasury the cost of Boulder Dam. Those contracts provided for a charge per kilowatt-hour of electricity for falling water and, in two instances only, for a charge for the storage and delivery of water from the dam. I mean the act did not exclude other charges, but the contracts provided that the Metropolitan water district of California and the city and county of San Diego will pay 25 cents an acre-foot for the storage and delivery of the water which they use for domestic purposes.

But by express provision of the act the contracts with the Imperial Valley, the Imperial irrigation district, and Coachella Valley district provide that there shall be no charge for storage and delivery of water to those districts. The contract with the Palo Verde irrigation district in California likewise provides that there shall be no charge for the storage and delivery of that water.

Our contract with the Secretary of the Interior provides that there may be a charge to Arizona users but not to exceed 25 cents an acre-foot. We think that when our act authorizing use of water in Arizona comes up, Congress should insert in it the provision that we, like California agricultural users, should pay no charge for the storage and delivery of water from Boulder Dam.

But now these contracts for power from Boulder are for so much per kilowatt-hour for falling water. There is no guarantee, in the usual sense, of repayment to the Federal Treasury of any money expended in the construction of Boulder Dam. That original charge was 1.63 mills per kilowatt-hour. It was reduced by the Boulder Canyon Project Adjustment Act, and while I have not the figure clearly in mind, I think it is 1.16 mills per kilowatt-hour.

As we see it, the effect of this treaty cannot be disadvantageous to the production of power at Boulder Dam. All this water that goes to Mexico must come from Boulder Dam and must pass down the river through generating equipment at Boulder Dam and generate power at Boulder Dam to the same degree as if it were utilized below Boulder Dam in the United States.

The additional construction of Davis Dam, which is below Boulder Dam, for the storage and metering out of water to Mexico might indeed improve to some degree the production of power at Boulder by permitting discharge of water for power purposes at Boulder when it is not needed in the United States for agricultural use below, and Davis Dam would again hold up the water until it was needed below. But it can in no event adversely affect the production of power at Boulder Dam.

I think I have pretty well covered our controlling reasons in our consideration of this treaty. We then, in our judgment, believe that this treaty is the best possible treaty we can obtain with Mexico,

in that it limits Mexico's use to the lowest possible quantity of water that we can get Mexico to agree to, and that without Mexico's agreement we are in great danger of the loss of a great deal more water—in our judgment, from five to six million acre-feet.

We believe, therefore, that in urging the ratification of this treaty we are seeking to save for use within the United States the greater part of, perhaps all of, perhaps more than 3,500,000 acre-feet of water per year.

Now, that means a great deal in the deserts of Arizona and southern California. Upon the basis of the experience of Arizona in the quantities of water that we have used, it means that that 3,500,000 acre-feet would support a population of American citizens in the neighborhood of a million, and that in ordinary times, at pre-war tax rates, that would return to the Federal Treasury in taxes somewhere in the neighborhood of \$20,000,000 a year when it is fully developed.

We think that no American interest would be hurt by the ratification of this treaty or gain by the refusal of ratification of this treaty, except the Imperial irrigation district insofar as it desires to make revenue out of the delivery of greater quantities of water to Mexico than is permitted by this treaty and whoever may have interests in the development of Mexican lands.

We, therefore, urge the ratification of this treaty; and, on behalf of Arizona and my people I should like also to express to the State Department, and particularly to Mr. Lawson, Mr. Clayton, Mr. McGurk, and Mr. Hackworth, and their aides and advisers, our profound appreciation for the careful consideration with which they approached this treaty and called it to our attention, and of the fact that they have negotiated a treaty which we believe to be so beneficial to the United States.

The CHAIRMAN. Are there any questions?

Senator MILLIKIN, do you care to ask any questions?

Senator MILLIKIN. No, thank you.

The CHAIRMAN. Senator Austin? You were not here this morning.

Senator AUSTIN. I should like to be informed more about the point relating to charges that might be obtained by the Imperial irrigation district for water delivered to Mexico. Tell us about that. I am not familiar with it.

Mr. CARSON. I did overlook one thing, if I may go back for a minute, Senator.

The CHAIRMAN. All right.

Mr. CARSON. Ever since—almost since—these two valleys, the one in California and the one in Mexico, were developed there has been bickering back and forth across the line between the users of water in California and those in Mexico and the Mexican Government, on the other hand, as to charges to be made by one against the other. At one time, I am informed, the Government of Mexico levied a tax or customs duty on water flowing through the Alamo Canal to be used in California, and there have been serious differences as to the amount of revenue the Imperial irrigation district, through its Mexican subsidiary, could obtain from Mexican landowners on account of the use of the facilities of the Alamo Canal.

Senator McFARLAND. I think you had better explain to Senator Austin how that water originally came through the Alamo Canal and was diverted into Mexico and back into California. He was not here earlier.

Senator AUSTIN. I assumed that; you do not need to explain it.

The CHAIRMAN. He can do it graphically.

Mr. CARSON. The Alamo Canal, which formerly was used to irrigate California lands and Mexican lands, was constructed and built by the developers of the lands in the two countries—the same developers. It carried water through Mexico, and part of that water came back into California for use in the United States, and the Mexican Government levied a tax or customs duty upon the passage of that water.

Also, there has been a considerable series of bickerings as to what charges should be made by the Mexican subsidiary, which is now wholly owned by the Imperial irrigation district of California, for delivery to Mexican lands through the old Alamo Canal. Now, so far as I know, there has not yet been arrived at or concluded any agreement as to the charges to be made—additional charges to be made—by the Imperial irrigation district for delivery through the All-American Canal to Mexican lands. The Imperial Dam is wholly within the United States. The Imperial district has an excess capacity in the All-American Canal from its intake down to Pilot Knob, immediately adjacent to the Mexican border, and from the tail race of Pilot Knob wasteway, it is impossible to again pick up the water and use it in the United States. But it is perfectly feasible and easy to carry it across the adjacent Mexican boundary into the old Alamo Canal for delivery to Mexican lands.

In 1943, when the Imperial irrigation district sought to obtain such authority, my information is that they sought to add to the charge to Mexican landowners an additional 25 cents an acre-foot.

That excess capacity is 3,000 cubic feet per second, which over the course of a year at continual flow amounts to 2,190,000 acre-feet.

Now, I should like to answer one other question that was raised here by Senator Downey in his questioning of some of the other witnesses, if I may, Mr. Chairman.

Senator MURDOCK. Before you leave the answer to Senator Austin's question, is it a fair inference from your statement that California is not so much interested in the volume of water that goes into Mexico as she is in being paid something for the water?

Mr. CARSON. Well, I would not like to say what is in their minds on that, Senator.

Senator MURDOCK. It seemed to me that that was a natural inference from your statement—at least, that was my inference—and I want you to clear it up, if that was your implication.

Mr. CARSON. From questions that were asked earlier in these hearings, Senator Murdock, if I should guess, why, I would think and I would assume that when California's case is presented here, the position will be taken that to immediately limit Mexico would cut off revenue from the Imperial irrigation district and that they will try to take the position that the Imperial irrigation district should be able and be permitted to drop that water through Pilot Knob and obtain revenue from the power it would thus produce and revenue from the delivery of that water to Mexico until we in the United States

are able to take it back and use it; and that they will take the position that we in the United States can expect the United States to do that, that the inter-American arbitration treaty is of no force or effect, and that under the doctrine of the old Harmon opinion the United States can take it back and will do so.

Well, we cannot agree with that position or that assumption. In our view, if that water is permitted to continue to go to Mexico without a limit on the claim of right of Mexico, agreed to by Mexico, we run a very great risk of losing it for all time, because as we read the inter-American arbitration treaty we cannot expect the United States to refuse to arbitrate. That treaty is signed by all the other American republics. In our judgment, to refuse to arbitrate under it would amount to a repudiation and abrogation of it. Our relations with Latin America, based upon the good-neighbor policy, have improved, and in our view this treaty is one of the foundations of that policy. So we think that if the United States should refuse to arbitrate at the request of Mexico, the consequences and the standing of the United States in the Western Hemisphere and in world affairs would be so disastrous that the United States would never take that position.

We have to proceed and, as we see it, put our plans and our rights in harmony with the best interests of the United States as a whole. Our interest, then, is to get that over-all, all-time limit as soon as possible.

Senator MURDOCK. After the waters are discharged through the Pilot Knob power plant, will it be possible to utilize them for irrigation purposes with the United States?

Mr. CARSON. No, sir.

Senator MURDOCK. After the waters are once used for the production of power in the Pilot Knob plant, they are discharged into Mexico and cannot be utilized here for irrigation purposes?

Mr. CARSON. That is right.

Senator MURDOCK. There is an excess capacity in the canal that will deliver water to Pilot Knob; is there not?

Mr. CARSON. Yes; 3,000 cubic feet per second excess.

Senator MURDOCK. If I have followed you, California's position is that until that excess water is used in the United States for irrigation purposes, they want to deliver that at the Pilot Knob power plant and then discharge it into Mexico and charge so much for that water that is used in Mexico until it is used in the United States; is that correct?

Mr. CARSON. Yes, sir; that is right.

The CHAIRMAN. The Imperial Valley irrigation district is, I assume, a private corporation?

Mr. CARSON. No; it is a quasi municipal organization.

The CHAIRMAN. It is a quasi municipal organization. It still owns the Mexican subsidiary, I understand?

Mr. CARSON. Yes, sir; that is my understanding.

The CHAIRMAN. In fact and in effect it is all American-owned, both in the irrigation district and in Mexico?

Mr. CARSON. Yes, sir; that is my understanding.

The CHAIRMAN. So they are all represented by American people, who are interested in that financial product?

Mr. CARSON. Yes, sir; that is my understanding.

The question I wanted to answer was this: Senator Downey asked some of the other witnesses, if we are correct on this return flow, and Mexico would agree with the United States to sign a treaty for 500,000 acre-feet of firm water or virgin water plus the return flow, whether we would accept that. I would like to say that on my part, personally, I would not advise the United States to accept it, for this reason: We have, as I see it, to get a firm, over-all, all-time limit on Mexico's claim of right. There are now going down from the United States over the border into Mexico 10,000,000 acre-feet of water a year. Suppose Mexico goes ahead, puts that water to use, and then invokes this arbitration treaty, saying, "You have withheld that water which was return flow when we made the treaty." We are back in the same position we are trying to avoid, subject to the terms of this inter-American arbitration treaty, and under it a determination of what quantity of water should go to Mexico.

So I say it would not serve the purpose of the United States, because it would leave open to Mexico again the question of arbitration of the quantity of Colorado River water she should receive. I would advise against that.

Senator DOWNEY. Mr. Carson, I do not believe you could have understood my suggestion at all. I was suggesting that Mexico might make a treaty in which she would bind herself to claim only whatever underground waters there are or there will be.

Mr. CARSON. Whatever return flow?

Senator DOWNEY. Whatever return flow there will be; that is right; plus a certain amount of the firm water, say four, five, six, or seven hundred thousand acre-feet.

Mr. CARSON. Yes.

Senator DOWNEY. Why do you say that leaves any question open?

Mr. CARSON. What is the quantity of return flow?

Senator DOWNEY. The State Department says that it is 1,00,000 or 1,100,000 or 1,200,000 acre-feet. We think that is preposterous. We are very sure that that basic fact is entirely wrong. But whatever it is, Mexico would get it. Our State Department says it would be upward of a million acre-feet.

Mr. CARSON. Then suppose, Senator, that that 10,000,000 acre-feet, or a considerable part of it, continues to flow over the Mexican boundary for 50 or 60 years before we in the United States can claim it, and Mexican users claim that that was the return flow and that we had interfered with it, and then they invoke this arbitration treaty.

Senator DOWNEY. Do you mean the natural flow?

Mr. CARSON. Yes. How are you going to distinguish it? You cannot distinguish it, as I see it, unless Mexico comes into the United States to determine how much of that is return flow and whether the United States has, by power, taken out of the river what otherwise would be return flow. So we still would not have a definite, final, over-all, all-time limit on Mexico's claim of right.

Senator DOWNEY. Of course, you people in Arizona are going to take out all of what otherwise would be return flow by pumping. You would be very foolish if you did not. I should think the State Department witnesses would realize that.

Mr. CARSON. Surely; we expect to pump all we can and California expects to pump all she can.

Senator DOWNEY. Surely, and there will not be a million acre-feet of return flow.

Mr. CARSON. We think there will be. Our engineers agree that that is a conservative estimate of return flow.

Senator DOWNEY. Do you agree that, regardless of what may be done in the United States by way of pumping or otherwise, there will certainly be upward of a million acre-feet of return flow in the river?

Mr. CARSON. Our engineers think there will be, Senator Downey. I do not know.

Senator DOWNEY. You are a lawyer, are you not?

Mr. CARSON. Yes.

Senator DOWNEY. You and I are lawyers, so we must take the opinion of engineers on that matter.

Mr. CARSON. Yes.

Senator DOWNEY. Then if the engineers are quite positive of that—those representing the Federal Government in this matter—I again ask you why Mexico would not be safe in taking that kind of contract; that is, return flow plus 500,000 acre-feet of fresh water?

Mr. CARSON. I do not think the United States would be safe, because I think it would still leave unsettled the quantity of that water Mexico should have the right to claim, and I think we have to make it definite, certain, and specific, so that there can be no misunderstanding that would subject it to arbitration, Senator Downey.

Senator DOWNEY. May I present it to you in this way? We in California are very positive that the State Department in this matter and some others are entirely too optimistic, and we do not believe the treaty should be made at this time at all, because we do not know about the facts. But if the Federal Government wants to make the treaty and acts upon the assumption that there will be upward of a million acre-feet of return flow, we do not believe the risk of that fact ought to be thrown upon the water users of the Colorado, including Arizona. But if it does seem for the best interest to make it, and Mexico wants to make it at this time, and the Federal Government throws the uncertainty of that fact upon us, who do not want to make the treaty at this time, and it believes there will be a million acre-feet of water, we do not think it will amount to 150,000 acre-feet.

Mr. CARSON. It amounts to more than that now, in our reports.

Senator DOWNEY. Because the water is not yet being applied, Mr. Carson.

Mr. CARSON. I think the engineers' reports would show that at the present time there is somewhere in the neighborhood of 185,000 or 190,000 acre-feet of return flow from the Yuma project and from the All-American Canal, and a portion of the Yuma project in California a considerable quantity of return flow, figures on which I do not have, and that there is now, since they have, as I understand, started up the desilting works at Imperial Dam, desilting water for which we would get credit under the terms of this treaty in a specified amount. I think our engineers and those of the Bureau of Reclamation originally estimated that that would be 400,000 acre-feet a year. Our engineers in reaching this have merely cut it down to 100,000 acre-feet a year. So there is bound to be some return flow.

In my view, this will be a good treaty for the United States, even though it meant release from Davis Dam of the 1,500,000 acre-feet and

the question of this return flow comes in because we in the United States are calculating how this treaty would affect us.

Senator McFARLAND. As I understand you, Mr. Carson, you agree that Arizona will use and reuse this water just as much as we can—that part that is allotted to us?

Mr. CARSON. Yes.

Senator McFARLAND. But even if this amount were less than half of what it is estimated, you still think it would be a good treaty?

Mr. CARSON. I still think it would be a good treaty, because I do not think it is possible to get an agreement with Mexico that would limit her to any less quantity of water.

There is another question I should like to go into for just a moment. Senator Downey asked some of these people whether or not they considered the use of the word “guarantee” in the treaty to be a prior right on the river. I agree with Senator Downey that it is a prior right with the one exception noted in the treaty: of accident to works or extraordinary drought.

I think we are by this treaty giving to Mexico a first claim, in effect, to 1,500,000 acre-feet of water, and still I am for the treaty, because I think it is the lowest we can ever hold Mexico to. I do not, in my thinking, give too great weight to that provision of the treaty which provides that Mexican rights should decrease in proportion to the rights in the United States, for this reason: the disparity in amounts. We will be using, under the figures that have been given here, 16,500,000 acre-feet of water, when Mexico will be using 1,500,000 acre-feet of water. A 10-percent shortage would amount to only a 150,000 acre-feet reduction in the Mexican burden, whereas it would be 1,650,000 acre-feet shortage in the United States. So the 150,000 would not go very far to take care of 1,650,000 acre-feet of shortage.

So, in my thinking, and with our people, I have taken the view that we must regard that as a prior right which we are giving Mexico.

The CHAIRMAN. Right there: The testimony heretofore has been that over a period of 46 years the average flow in the river was 18,000,000 acre-feet?

Mr. CARSON. Yes, sir.

The CHAIRMAN. And the presumption is that something like that would continue to be the flow in future years, is it not?

Mr. CARSON. Yes, sir. Mr. Chairman, I did not mean by my answer to Senator Downey's question to say that I anticipate that there will be any very serious shortage in the Colorado River. I do not think so, because of past experience. But you have to assume that before you could anticipate any shortage we would have to be supplied with all these waters apportioned by the Colorado River compact; that there would disappear from the river that 2,000,000 acre-feet of surplus. You would have to assume that no return flow would reach the Mexican border at all, and you would have to assume that the present storage and future storage which we all hope will be built upon the river was dry, before you could anticipate anything, it seems to me, that would reduce any of these apportioned waters. The compact, however, goes ahead and provides that if there should be such a condition arise, half the water would be

furnished by the upper basin and half by the lower basin. I think that in the lower basin 750,000 acre-feet, if you could conceive of those things happening, might have to be furnished from our apportioned limit of $8\frac{1}{2}$ million acre-feet.

Senator DOWNEY. What was that figure?

Mr. CARSON. Seven hundred and fifty thousand acre-feet, half of the apportionment to Mexico; that, assuming that the things I have referred to occurred, we of the lower basin would have to furnish 750,000 acre-feet. I presume—and this is somewhat presuming—that we would have to furnish in proportion to our allocated waters, which would mean that Arizona would furnish approximately 300,000 acre-feet, thirty-six eighty-fifths of 750,000, and that, of course, would be furnished from Arizona's main stream share of the river.

The CHAIRMAN. That is on the assumption that Arizona in the meanwhile would have utilized for beneficial purposes all of its allocation under the compact?

Mr. CARSON. That is exactly right.

The CHAIRMAN. Which might not occur for many years?

Mr. CARSON. It will not occur for many years. But the reason I am bringing this up is that I understand that some of the people in Arizona have raised the question with our Senators that it might be possible under this treaty for some water to have to be furnished from the Salt River and the Gila River to furnish this Mexican supply. Then, further, this treaty does not in any degree set aside or supersede State laws as to priority. If Arizona had to furnish it, it would be from the junior priorities, which will be the main stream uses, not Gila uses and the Salt River uses. There will never be a chance that they would have to furnish one drop of water to Mexico unless you assume that the main stream did not contain enough water to supply the Mexican burden.

Senator MURDOCK. You would apply substantially the same rule, would you not, as to the other basins?

Mr. CARSON. Yes, sir.

Senator MURDOCK. That under their State laws, on the basis of priority, the rights would be protected?

Mr. CARSON. Yes, sir.

Senator MURDOCK. With reference to the return-flow water, do you consider, Mr. Carson, as return-flow water, that water which is found in the river channel after it has reached a point below which it cannot be further diverted within the United States? Is that a proper definition of return flow?

Mr. CARSON. Except for this qualification, Senator. It might be possible to pump it out of the river again in the United States, to put it into the All-American Canal, for instance. But our Arizona engineers in reaching this calculation of return flow have tried to calculate it down to where it would be water containing 3,000 parts of solids per million, so that it would not be used in the United States.

Senator MURDOCK. The quality of the water comes into the calculation of return flow?

Mr. CARSON. It does in reading these figures that have been here quoted.

Senator MURDOCK. Take the territory in the State of Sonora, which is immediately south of the Yuma project: Is it possible to irrigate

that section of the country in Mexico without the construction of an international diversion dam?

Mr. CARSON. It might be possible to extend the present canals for the Yuma project across the border, but that would require diversion at the Imperial Dam.

Senator MURDOCK. But it is not physically possible, as I understand the situation, to divert water on to that territory immediately south of Yuma, in Mexico, except by an international arrangement for the construction of a dam?

Mr. CARSON. I think that is true; yes, sir.

Senator MURDOCK. Is it possible to increase the irrigated lands on the Colorado River in Mexico without the construction of an international dam somewhere along the boundary?

Mr. CARSON. We think it is. Our engineers think it is possible for Mexico to increase its use without the construction of an international dam there; that Mexico could go below the Arizona boundary and build a diversion structure in the river and take water out and put it on the land.

Senator MURDOCK. If I have followed you correctly, you take the position that if the treaty is ratified by the Senate and becomes effective, Mexico is thereby precluded from increasing her rights in the water of the Colorado River above 1,500,000 acre-feet?

Mr. CARSON. Yes, sir. That is the value of this treaty to the United States.

Senator MURDOCK. Let us assume that the treaty is ratified, but because of the failure to utilize all of the waters in the United States, with the exception of what Mexico gets under the treaty; that Mexico, regardless of that fact and the fact that she is limited in the treaty, goes ahead and uses this surplus of water that probably will flow down to her for 10, 15, or 20 years, and brings a lot of land under cultivation that eventually will have to lose its water rights, do you think that Mexico would still be precluded from asking that the question be arbitrated before she loses that water?

Mr. CARSON. Yes, sir. That is the reason that I am for this treaty. I think it forever cuts them off by solemn agreement between two sovereign nations, and that no matter how much she might use in the meantime she could never assert a claim to a right of more than 1½ million acre-feet.

Senator MURDOCK. If you did not so construe the treaty you would not be here supporting it?

Mr. CARSON. That is right.

The CHAIRMAN. If the treaty were ratified and the United States did not use all the water that was available to it, Mexico would be at liberty, of course, to go ahead and increase her acreage?

Mr. CARSON. Yes, sir.

The CHAIRMAN. But she could never demand of the United States the furnishing of more than 1,500,000 acre-feet, and if that resulted in the curtailment of her allocations in Mexico that would be her domestic problem and not ours?

Mr. CARSON. That is right. If the treaty is ratified, that is correct.

Senator O'MAHONEY. Then would it be proper to say that as you interpret this treaty, if the treaty should be ratified, Mexico would expand irrigation works beyond the claim of 1½ million acre-feet only at her own risk?

Mr. CARSON. That is right.

Senator O'MAHONEY. Whereas, if the treaty is not ratified, then Mexico could expand her irrigation at the risk of the United States?

Mr. CARSON. Yes, sir. That is just exactly the way we view it, Senator.

Senator MURDOCK. And that demand of Mexico, in case the treaty is ratified, for water from the main stream of the river, let us say, from Davis Dam or from Boulder Dam, if I have followed you correctly, under the compact, whatever the amount of that demand is, it is an equal demand on the upper- and lower-basin States?

Mr. CARSON. Yes, sir. There is one other point that I would like to make, Senator, on this question of whether or not this should be a proportionate amount of the stream, such a percentage to Mexico and such a percentage in the United States. That, in my judgment, would not protect the United States, because it would not completely fix a definite, specific quantity of water for all time, but might involve Mexican authorities coming up to measure the uses of water in the United States. Further, a specific, definite quantity of water to the lower user is nothing unusual. Take the Colorado River compact itself—

The CHAIRMAN. Under that sort of a treaty you are assuming that the Mexican authorities have a right to check us to see how we are utilizing the water?

Mr. CARSON. Yes, sir.

The CHAIRMAN. Would not the agreement with them as to arbitration raise the possibility that on every aspect involved those matters would be subject to arbitration?

Mr. CARSON. Yes, sir.

The CHAIRMAN. Now go ahead.

Mr. CARSON. The Colorado River compact itself provides that the upper basin States guarantee to the lower basin States 75,000,000 acre-feet of water every 10 years. We in the lower basin, I think, would not have been satisfied with any compact which said, "You may have 2½ million acre-feet and the return flow." The Upper Rio Grand Treaty with Mexico specifies for the use of Mexico a definite, specific quantity of water; and in my judgment, as I say, I think it is necessary that it be definite and specific.

The CHAIRMAN. You are talking about the treaty of 1906, not about this treaty?

Mr. CARSON. I am talking about the Upper Rio Grande Treaty of 1906, which fixes definite, specific quantities of water. Since the ratification of the treaty of arbitration it is doubly important to the United States that we know the extent of the Mexican burden and that it be fixed definitely, specifically, and for all time.

Senator JOHNSON of California. Where do you reside, please?

Mr. CARSON. Phoenix, Ariz.

Senator JOHNSON of California. Are you testifying in behalf of various institutions there?

Mr. CARSON. I am testifying, Senator Johnson, in behalf of the Governor of Arizona, the Colorado River Commission of Arizona, the State land and water commissioner, and the legislature. The legislature passed a joint memorial urging the ratification of the treaty, and I am authorized to appear for all the State officials to present these views.

Senator JOHNSON of California. You say in the document which you have submitted here:

Of course there are provisions in this treaty which compensate Mexico; an assured supply synchronized to meet her seasons and to be delivered free of cost.

That is correct, is it?

Mr. CARSON. Yes, sir.

Senator JOHNSON of California. And those provisions still stand?

Mr. CARSON. In this treaty; yes, sir.

Senator JOHNSON of California. Were you a resident of Phoenix at the time of the construction of the Boulder Dam?

Mr. CARSON. Yes, sir.

Senator JOHNSON of California. Did you observe its construction?

Mr. CARSON. I have been to Boulder Dam many times. I am not sure whether I was there during the period of construction or not. I have lived in Arizona 23 years.

Senator JOHNSON of California. Did you make any objection during the period of the construction of Boulder Dam to its erection?

Mr. CARSON. The State of Arizona did; yes, sir.

Senator JOHNSON of California. Do you remember the long fight over it?

Mr. CARSON. Yes, sir.

Senator JOHNSON of California. And after an 8-year fight representatives of Arizona finally came over, did they not?

Mr. CARSON. My recollection is—and this is purely a recollection, and of course you were in the Senate at that time and know about it—my recollection is that they continued to fight against the passage of the Boulder Canyon Project Act.

Senator JOHNSON of California. They did not at the end, did they?

Mr. CARSON. I thought they did. I might be mistaken as to that.

Senator JOHNSON of California. It was a fight, then, that I do not understand.

Mr. CARSON. Maybe I am in error.

Senator JOHNSON of California. I thought there was no kind of a legislative fight that I could not understand. But that is neither here nor there. You remember that the bill was passed some 8 years after it was introduced, do you not?

Mr. CARSON. Yes, sir.

Senator JOHNSON of California. And that it was passed with practical unanimity?

Mr. CARSON. I do not know how the vote was, Senator Johnson; but it was passed.

Senator JOHNSON of California. Were you one of the protestants?

Mr. CARSON. No, sir. I was not at that time engaged by the State in this work. I have been off and on, now, for something over 12 years; but I was not at that time.

Senator JOHNSON of California. You say, engaged in this work. What work do you mean?

Mr. CARSON. I am attorney for the Arizona Colorado River Commission and have been off and on for the last 12 years. I was not at that time.

Senator JOHNSON of California. And it is in pursuance of your representation of the Arizona Colorado River Commission that you appear here today?

Mr. CARSON. Yes, sir; among others.

The CHAIRMAN. Do you have any other questions?

Senator JOHNSON of California. I want to ask some, but I do not think they would be entirely pertinent.

Do you receive any compensation for attending here?

Mr. CARSON. Oh, yes, Senator.

Senator JOHNSON of California. What compensation?

Mr. CARSON. \$75 a day and expenses.

Senator JOHNSON of California. Anything other than that?

Mr. CARSON. No, sir.

Senator JOHNSON of California. Do you know whether or not the other witnesses receive a stipend per diem for appearing here?

Mr. CARSON. I do not know, Senator.

Senator JOHNSON of California. Well, I can say to you that, so far as I am concerned, I do not know of anybody that does; but they may.

Mr. CARSON. I do not know.

Senator JOHNSON of California. Would the fact that you receive \$75 a day to come here from your home in Phoenix, Ariz.; influence your opinion before the committee?

Mr. CARSON. You mean, the fact of the pay that I get?

Senator JOHNSON of California. Yes.

Mr. CARSON. I would not be here, Senator Johnson, if I did not personally believe thoroughly in the position of my State and what I have here said.

Senator JOHNSON of California. Of course; and when you argue here you would not argue for the United States unless you felt certain of being right?

Mr. CARSON. That is right. I think I am right.

Senator JOHNSON of California. The United States has some interest in this matter, has it not?

Mr. CARSON. Yes.

Senator JOHNSON of California. It is a singular thing that the people who array themselves in opposition to the United States and to what its people may wish are all gentlemen who are connected with the State Department, isn't it?

The CHAIRMAN. I hardly think that that is a fair question. Go ahead, however; I shall not object.

Mr. CARSON. Well, Senator Johnson, if I may be permitted, with all due deference, to say this, I think that the people who are urging ratification of this treaty are serving the best and highest interests of the United States, and that those who oppose this treaty are doing a disservice to the United States, in my opinion.

Senator JOHNSON of California. That is a very fair answer. Now, why?

Mr. CARSON. Because I think this treaty is very much in the interest of the United States and of the users of water in the Colorado River Basin. I tried to make it clear, but you were not here this morning, that this treaty, for all time, as we read it, limits the Mexican claim to 1,500,000 acre-feet, whereas in 1943, and again last year, 1944, they used approximately 1,800,000 acre-feet. Our view is that unless we get a definite, over-all, all-time limit on Mexico's claim of rights, it is possible for Mexico to increase its use of water to

5,000,000 or 6,000,000 acre-feet and to invoke the terms of the Inter-American Arbitration Treaty, and we would run a chance and, we think, a substantial chance, of losing, through an award of the court of arbitration, forever, the quantity of water which Mexico was using at the time the treaty was invoked. So we think that by urging ratification of this treaty we are urging the Senate to save for the United States and the people of the United States forever the use of a greater part, perhaps all, and perhaps more than $3\frac{1}{2}$ million acre-feet of water a year in the Colorado River Basin, including the deserts of Arizona and of California.

Senator JOHNSON of California. Have you finished?

Mr. CARSON. Yes, sir.

Senator JOHNSON of California. You make a very good argument for California; I am very much obliged to you. I do not know that I would appreciate as much, if I had heard the rest of what you had to say, as I appreciate the speech which you have just uttered.

What would you do with the Boulder Dam?

Mr. CARSON. You were here when I went over the question of the Boulder Dam; were you not?

Senator JOHNSON of California. No; I was not.

Mr. CARSON. Well, I will explain—

Senator JOHNSON of California. I am not asking you to say it again.

Mr. CARSON. It will take me but a minute. I shall be glad to, Senator.

In my view, the ratification of this treaty does not in any degree interfere with the production of power at Boulder Dam. The water that will go to Mexico has to pass through the generating machinery at Boulder Dam and will generate power on its way through. So that the ratification of this treaty does not interfere with the power production of Boulder Dam.

Senator JOHNSON of California. There is something else besides the power production of Boulder Dam. How about the water?

Mr. CARSON. We in Arizona have a contract for 2,800,000 acre-feet of that water. Your communities in California have contracts, I think, for 5,362,000 acre-feet of that water. Of the California contracts the only ones that provide for payment for the storage and delivery of water are the metropolitan water district and the county and city of San Diego. The Imperial Valley, Coachella, and the Palo Verde Valley pay not one dime for the storage and delivery of water for irrigation purposes; and we in Arizona hope that when we come back here for the authorization for projects in Arizona the Government will show our farmers the same consideration they have the California farmers and that we will have no charge against us for the storage and delivery of water from Boulder Dam.

Senator JOHNSON of California. Would you be satisfied with that?

Mr. CARSON. Yes; surely.

Senator JOHNSON of California. Then your only complaint is that thus far you have not received the same consideration that you think some other State has received?

Mr. CARSON. I think we will when the time comes when we are ready with the specific projects.

Senator JOHNSON of California. You have not been ready?

Mr. CARSON. No; we are not yet ready.

Senator JOHNSON of California. You are not yet ready?

Mr. CARSON. No.

Senator JOHNSON of California. That is your fault; is it not?

Mr. CARSON. Yes.

Senator JOHNSON of California. When you get what you expect or what you ought to have you will have received exactly what California has received. Then you agree that the Boulder Canyon Project Act should not be monkeyed with?

Mr. CARSON. I agree to that now. This treaty does not affect the Boulder Canyon Project Act, in my judgment, Senator Johnson.

Senator JOHNSON of California. Even in the delivery of water or anything else?

Mr. CARSON. No, sir.

Senator JOHNSON of California. And the water that comes from the Colorado River now is not interfered with in the slightest degree by the Boulder Canyon Project Act?

Mr. CARSON. All the uses are subject to the Boulder Canyon Project Act and the Colorado River compact.

Senator JOHNSON of California. Certainly. If it is subject to those restraints, then they have certain official difficulties to overcome in the Boulder Canyon Project Act; have they not?

Mr. CARSON. Not by this treaty.

Senator JOHNSON of California. No, not by this treaty; but by the Boulder Canyon Project Act.

Mr. CARSON. If you mean that people that want to use water out of Boulder Dam have to comply with that act; yes.

Senator JOHNSON of California. Do you object to having them do that?

Mr. CARSON. No.

Senator JOHNSON of California. Wherein do they interfere with Arizona now?

Mr. CARSON. I do not know that I understand you—or you do not understand me. I have not said that anybody is interfering with Arizona.

Senator JOHNSON of California. I do not know whether I misunderstood you or not.

Mr. CARSON. I have not said that anybody now is interfering with Arizona.

Senator JOHNSON of California. Do you say so?

Mr. CARSON. No, sir. I have not said that anybody here is interfering with Arizona, but I have said it was to Arizona's interests and Senator Johnson's and my interests and, in my opinion, to the interest of everybody in California that wants to use water in the United States, that a definite, specific, final, over-all, all-time limit be placed upon the possible Mexican claim for water from the Colorado River. That is the position I have taken here.

Senator JOHNSON of California. Does that remedy the defect in this treaty?

Mr. CARSON. I think this is a good treaty.

Senator JOHNSON of California. Why is it a good treaty?

Mr. CARSON. Because it forever, in my judgment, fixes a definite, specific, over-all, all-time limit on the claim of Mexico to water of the Colorado River at the lowest quantity, it seems to me, it is possible to obtain her consent to.

Senator JOHNSON of California. That is rather an ambiguous answer. You say, to the degree that they can obtain consent to?

Mr. CARSON. Yes, sir.

Senator JOHNSON of California. How great an interference with the water is there?

Mr. CARSON. You mean, does this treaty interfere with the use of the water in the Colorado River?

Senator JOHNSON of California. No. I am asking how great a detriment is the Boulder Dam Act to Arizona.

Mr. CARSON. I would not say it is any detriment to Arizona. We have ratified the Colorado River compact, Senator. We recognize that we are subject to the act and the compact, and we are not trying in any degree to change either.

Senator JOHNSON of California. You are not trying to change either?

Mr. CARSON. No, sir.

Senator JOHNSON of California. But you are trying to change the Boulder Canyon Act, and that would "change either," would it not?

Mr. CARSON. No, sir. We are not trying to change the Boulder Canyon Project Act.

Senator JOHNSON of California. You would let that remain just as it is?

Mr. CARSON. Yes, sir.

Senator JOHNSON of California. Then those gentlemen who "lay that flattering unction to their souls" that that would not injure the Boulder Canyon Act are mistaken; are they not?

Mr. CARSON. I would not say they are. I do not know who they are or what their ground is.

Senator JOHNSON of California. Would you have to know who they are?

Mr. CARSON. I would have to know the ground of that statement.

Senator JOHNSON of California. I suppose there are quite a number of them.

Mr. CARSON. In my opinion, this proposed pending treaty does not interfere with the Boulder Canyon Project Act or the Colorado River compact.

Senator JOHNSON of California. Is that all you have to say about it?

Mr. CARSON. If you have any other questions I will be glad to try to answer them.

Senator JOHNSON of California. That is all.

Senator McFARLAND. You stated, Mr. Carson, that Arizona had a contract for 2,800,000 acre-feet, and you would favor at this time taking half of the surplus?

Mr. CARSON. Yes. It is also a contract for half of the surplus in the main stream that is available for use in the lower basin except one-twenty-fifth of the surplus which we agree might be utilized by Nevada.

Senator McFARLAND. Referring to your compensation, you testified that you were hired by the Colorado River Commission in Arizona?

Mr. CARSON. Yes, sir.

Senator McFARLAND. And they hired you to give the advice that you think is best for the State of Arizona?

Mr. CARSON. Yes, sir.

Senator McFARLAND. And they pay you regardless of what advice you give?

Mr. CARSON. Yes, sir.

Senator McFARLAND. If you had advised them that in your opinion this would be a bad contract, you would have been here opposing the treaty and receiving the same amount of pay that you are receiving to testify in its behalf?

Mr. CARSON. Well, I would if they approved my advice. I do not think they would. I think they would have been for the treaty, however I advised them. But if they approved my advice I would be back here that way.

Senator DOWNEY. Mr. Carson, I appreciate your frankness and sincerity, and I have a few additional questions that I would like to ask you.

First, I want to read to you an excerpt from a statement made by Senator Pittman shortly before the Boulder Canyon Project Act was passed and while it was being debated on the floor of the Senate. Just let me read it to you. Senator Pittman said: "The natural flow of the river"—referring to the Colorado—"today will not irrigate any more than 240,000 acres of land in Mexico. That is all it will irrigate."

Do you agree that Senator Pittman was correct in that statement?

Mr. CARSON. No, sir.

Senator DOWNEY. In forming your opinion, then, you start with the belief that that statement, or that fact, as alleged by Senator Pittman, is incorrect?

Mr. CARSON. May I answer that this way? I have told you the basis of my belief as to the irrigable lands in Mexico. I do not know what information Senator Pittman had. We must, of course, depend upon our engineers' estimates; and they do not agree with the statement of Senator Pittman.

Senator DOWNEY. Senator Pittman was not referring to the irrigable lands in Mexico as the limitation to the natural flow of the river.

Mr. CARSON. Our engineers do not agree with that limitation, except that there is this ambiguity there. Senator Pittman apparently did not say how much water he thought would be in the river at the low flow. He said how much land would be irrigated.

Senator DOWNEY. Senator Pittman said this:

The natural flow of the river today will not irrigate any more than 240,000 acres of land in Mexico. That is all it will irrigate.

You do not agree with that statement?

Mr. CARSON. Oh, I think that is an unfair question, as to whether I agree.

Senator DOWNEY. Very well, I will withdraw it.

Mr. CARSON. I have told you the basis of what I have said here is our own engineers' reports, whose reports I believe to be sound, and that statement thereof Senator Key Pittman's said "acres of land." Now, their engineers would even differ now as to the amount of water necessary to divert, to put on an acre of land, if you would figure that acre of land as requiring—and it may be; I am not prepared to say—5 or 6 acre-feet diversion to properly irrigate that land, why, then, we would still be somewhere in the neighborhood of 1,500,000 acre-feet that this treaty provides for Mexico.

Senator DOWNEY. Now, Mr. Carson, I may have misunderstood you this morning, but I think you stated it several times, that you were in agreement with our position that Mexico up to the time of building of Boulder Dam had never used to exceed 750,000 acre-feet of water on their land down there.

Mr. CARSON. That is right—delivered at the head of their lateral, but not—

Senator DOWNEY. Yes; 750,000 acre-feet.

Mr. CARSON. Yes. But, now, then, you are asking me about available water to irrigate Mexican lands. Now, let me just answer.

Senator DOWNEY. Wait a minute, Mr. Carson—if I may.

The CHAIRMAN. Let the witness answer.

Mr. CARSON. Let me finish that, now. Our engineers say, Senator Downey, that prior to the construction of Boulder Dam the Mexican subsidiary corporation of the Imperial irrigation district diverted through the Alamo Canal 3,000,000 acre-feet of water a year, and that under the contract, that that subsidiary had with the Mexican Government, half of that water, 1,500,000 acre-feet, was available for use in Mexico, had Mexico had an economic condition which would have permitted its full use.

Senator DOWNEY. Yes, Mr. Carson; you stated that many times this morning.

Mr. CARSON. I want to make that clear.

Senator DOWNEY. I want to emphasize in your testimony, and be sure I understand you, that prior to the building of Boulder, as a matter of actual fact, now, without qualification or argument, Mexico never had used more than 750,000 acre-feet of water in irrigating the lands in Lower California?

Mr. CARSON. Delivered at the head of its laterals.

Senator DOWNEY. That is right.

Mr. CARSON. That is correct.

The CHAIRMAN. In addition to that there were the seepage and the other things, were there not?

Mr. CARSON. Seepage and evaporation and canal losses.

Senator DOWNEY. Now, Senator Pittman continued in this, and I want to ask you if you agree or disagree with this language:

I think it is the recognized policy of Congress—certainly it is recognized in the very opening paragraph of this bill—that the comity of nations does not call upon the United States to furnish to Mexico any water that has accumulated in the United States through expenditures made by the United States. If this dam is never built, if there is no water impounded on that river, Mexico, a thousand years from now, will be where Mexico is today, with regard to irrigation in Mexico.

Mr. CARSON. No, sir.

Senator DOWNEY. You do not agree with that statement?

Mr. CARSON. I do not agree with that, because our engineers say that prior to the construction of Boulder Dam, had economic conditions permitted, in Mexico, Mexico could have used 2,000,000 acre-feet a year, or slightly below that amount; and I take their conclusion.

Senator DOWNEY. Do you mean by that statement that your engineers advised you that, considering rights prior to Mexican rights, from Wyoming and Colorado down to the boundary, that there would in the irrigation season in ordinarily low periods have been 2,000,000 acre-feet of water available for Mexico?

Mr. CARSON. You have added in there, "considering prior rights"? Senator DOWNEY. Yes.

Mr. CARSON. Eliminate that. I don't know whether they have considered that, but they have considered that prior to the construction of Boulder Dam there was available in the river sufficient water to have permitted Mexico to divert somewhere close to or approximately 2,000,000 acre-feet a year.

Senator DOWNEY. And you, Mr. Carson, do you know whether in making that statement they meant to exclude or include from their calculations all of the appropriations in Wyoming, Colorado, Nevada, Arizona, or California and New Mexico and Utah? You are sitting here, and you say you do not know?

Mr. CARSON. I do not think they did; but I would see no reason to do so. The question of the extent of Mexico's possible diversion, Senator Downey, depended upon the quantity of water reaching Mexico in the low periods of the river.

Senator DOWNEY. That is the very thing I am asking you about.

Mr. CARSON. After all these upper uses had been supplied.

Senator DOWNEY. Yes. Now we are in agreement again. I ask you this again: Do you understand your engineers to have meant to say to you that after the satisfaction of prior appropriations in the United States—that is, prior to Mexico—there still would have been 2,000,000 acre-feet of water available from a practical irrigation standpoint for Mexico? Is that what you mean to say?

Mr. CARSON. Yes; although I did not ask them. I do not know whether they undertook to pass on the legal question of what were prior appropriations, or not, but their estimates are after all the water that was utilized at that time in the United States was taken out, that there still went through Mexico enough water to have permitted Mexico to divert approximately 2,000,000 acre-feet of water.

Senator DOWNEY. But of course she never did do anything else?

Mr. CARSON. No.

Senator DOWNEY. She never did it? No.

Mr. CARSON. But the Mexican subsidiary of the Imperial irrigation district did divert and carry through Mexico 3,000,000 acre-feet during those years.

Senator DOWNEY. For use in the United States, except for a maximum of 750,000 acre-feet?

Mr. CARSON. Actually put to use.

Senator DOWNEY. Yes; that is it.

Mr. CARSON. But Mexico had a legal right to use half of the water flowing into the canal, or 1,500,000 acre-feet.

Senator DOWNEY. Mr. Carson, I want to say this: that I of course admit your sincerity and integrity. I know you are here telling us just what you believe.

Mr. CARSON. Yes.

Senator DOWNEY. But I must admit to a sense of shock that you would be here defending in Mexico a right that you say depends upon a mere paper filing back in 1897 for 10,000 second-feet by an American company, which was never used in Mexico, up to the time of the building of Boulder Dam, except to the extent of 750,000 acre-feet, and you here are going back 50 years to find the justification for that right that you now claim we must admit in Mexico.

Mr. CARSON. Oh, no; you misunderstand me, Senator. I am not here trying to say that under that contract Mexico now has a legal right to divert through the All-American Canal 1,500,000 acre-feet of water, and that, at the time of the——

The CHAIRMAN (interposing). If that were true, you would not have needed this treaty, would you?

Mr. CARSON. No; Mexico would not have needed it. We would want this treaty, to get an all-time over-all limit on Mexico.

Senator DOWNEY. All right. Let me explore another question a moment. You have already stated, Mr. Carson, several times, that what you think the United States gains by this treaty is that Mexico surrenders and abandons the possibility of getting three or four or five million acre-feet more of water by being able to utilize it before we can appropriate it.

Mr. CARSON. Yes, sir.

Senator DOWNEY. First, let me ask you this: Do you know of another single thing in this whole treaty that Mexico gives up, except that hypothetical right of which you speak? Is there another consideration moving from Mexico?

Mr. CARSON. No; not in my judgment.

Senator DOWNEY. That is all? Now, what she is giving up, Mr. Carson, then, is the right to acquire an appropriated right against us on the stored waters of Boulder Dam, that was built upon American soil to store up American water, at the expense of the Americans?

Mr. CARSON. No; I would not say that, Senator.

Senator DOWNEY. Where would that three or four million acre-feet of water come from that we think Mexico may get, except out of Boulder?

Mr. CARSON. It would flow across the border into Mexico, until we in the United States, the upper basin and the lower basin, are able to put it to use. Boulder Dam and Lake Mead cannot store all the water of the Colorado River Basin and keep it from flowing across the border into Mexico. Mexico, under Mexican law, would have a right to appropriate and put to use any water within her borders flowing in that stream, and her right of appropriation is not controlled or limited by the domestic law of the United States or of any State in the United States.

Senator DOWNEY. Let me ask you this, Mr. Carson: Is it not true that in Mexico up until at least when they have recently perhaps nationalized their resources—and what the effect of that is, I do not know—but up until that time, isn't it true that in Mexico and in Lower California and in Sonora, exactly the same kind of an irrigation law and rule applies as in the United States, and that is, the doctrine of prior appropriation?

Mr. CARSON. My understanding—I have never practiced law, there, I do not know much about their law—but my understanding, Senator Downey, is that they did have a somewhat modified theory of prior appropriation law, but it was not so specifically tied to specific lands as ours is—more or less of a floating right which could be transferred from one piece of land to another.

Senator DOWNEY. But that variation in law is not present here, because we do not make any point—if Mexico had 750,000 acre-feet, we would not require that she have to continue to apply it to a particular parcel of land.

Mr. CARSON. No; it is none of our concern.

Senator DOWNEY. But is it not true that we in the United States, when we came into the West, took over and developed and adopted the irrigation law as developed by the Government of Mexico?

Mr. CARSON. I think that is true.

Senator DOWNEY. And surely there must be some doctrine of higher appropriation that should prevail in this case, in all these States, including Lower California?

Mr. CARSON. With some legal variations that is, generally speaking, true.

Senator DOWNEY. After I had interrogated you this morning there was additional interrogation and again I was left somewhat in doubt about your conclusions. I think you did very positively state to me that American citizens in the same condition as the users in Lower California could not just go in and grab this water away by appropriation before the persons who were entitled to use it under a contract given by the sovereignty, who had built the dam, had employed it; is that right?

Mr. CARSON. It is a little bit involved, but, if I get your thought, that is what I mean.

Senator DOWNEY. Mr. Carson, my question is very much too involved, and I would like to have the opportunity to correct it.

Now, Mr. Carson, I do understand that you are at least very much in agreement with us in one thing. You do feel that the word "guaranteed" right in this treaty means something?

Mr. CARSON. Yes, sir.

Senator DOWNEY. Yes. Mr. Clayton said in his opinion it would not make any difference to the rights whether it was in or out.

Mr. CARSON. Well, Senator, as I understood Mr. Clayton, he said it made no difference whether the word "guaranteed" was in there or not.

Senator DOWNEY. That is right; that is what he said.

Mr. CARSON. And with that I agree, as to the word. You can leave out the word "guaranteed" and "it is provided that the United States shall deliver to Mexico a supply," or whatever you want to say, "of 1,500,000 acre-feet a year." That is of the same force and effect if the "guaranteed" were left out. It would be a primary obligation of the United States to deliver 1,500,000 acre-feet to Mexico.

Senator DOWNEY. And you are telling the lawyers upon this committee, as another lawyer, that in your opinion now you agree with Mr. Clayton that that treaty and that language would have the same meaning with the word "guaranteed" excluded?

Mr. CARSON. Let me look at it to be sure that I understand what you are talking about, there. That is article 10, is it not?

The CHAIRMAN. Your contention is that if I promise to deliver \$100 to somebody, whether I say "I guarantee it" or not, I promise to deliver the \$100.

Mr. CARSON. That is right. That is just exactly it.

Senator DOWNEY. Mr. Chairman, that is not the language. There is no word "promise," as I recall it.

The CHAIRMAN. To "agree" is to promise.

Senator DOWNEY. Let us read the language.

Mr. CARSON. I quote:

Of the waters of the Colorado River, from any and all sources, there are allotted to Mexico:

(a) A guaranteed annual quantity of 1,500,000 acre-feet * * * to be delivered in accordance with the provisions of article 15 of this treaty.

Senator DOWNEY. I think there is no corresponding language so far as the rights of the United States are concerned.

Mr. CARSON. No.

Senator DOWNEY. We have nothing from the treaty, as far as I can see.

Mr. CARSON. No; that is right.

Senator DOWNEY. Mexico is "guaranteed."

Mr. CARSON. So if you leave out the word "guaranteed", then you would read it——

There are allotted to Mexico an annual quantity of 1,500,000 acre-feet, to be delivered in accordance with the provisions of article 15 of this treaty.

Senator DOWNEY. Yes, sir; and you think that would mean something?

Mr. CARSON. I think that means the same thing. To me it does.

Senator MURDOCK. The law of gravity pretty well protects the United States, does it not?

Mr. CARSON. Yes. Then the obligation in article 15, referred to in that first sentence, specifies the points of delivery and the schedules with which it should be delivered.

The CHAIRMAN. Let me ask you this question: Speaking about guaranteeing how much water to the United States, we do not have a guaranty of anything under it, because we have got all the water, with that exception.

Mr. CARSON. All the balance of the water.

The CHAIRMAN. All the balance of the water is already under our control.

Mr. CARSON. It is under our control.

The CHAIRMAN. And the treaty guarantees that control?

Mr. CARSON. Yes, sir.

The CHAIRMAN. It does not interfere with it, at least?

Mr. CARSON. No.

Senator MILLIKIN. Senator, may I ask a question?

The CHAIRMAN. Senator Millikin.

Senator MILLIKIN. I unfortunately missed a part of the witness' testimony. Something that Senator Downey has just said impels me to ask you perhaps to retrace a very brief part of what you have said. By any chance did you advocate the theory that the United States Government or any governmental agency or any private agency merely by building a dam across the stream can acquire a firm right to the beneficial user of water, without beneficial use?

Mr. CARSON. No; I did not so intend, Senator Millikin.

Senator MCFARLAND. You intended to imply that they must follow it within a reasonable time and with due diligence, in putting it on the land?

Mr. CARSON. Yes.

Senator MCFARLAND. That is the law, is it not?

Mr. CARSON. That is the State law.

Senator MCFARLAND. Yes.

Mr. CARSON. In Arizona, you would have to put it on there within 5 years and file your plans for development, and all that, with the State land and water commissioner and use due diligence to get it out on the land.

Senator MILLIKIN. Exactly. It is right in their appropriation; it must be followed diligently in bringing the water to beneficial use on the land.

Mr. CARSON. Yes, sir.

Senator MILLIKIN. And it has no more effect than that, so far as building the dam is concerned?

Mr. CARSON. That is correct.

Senator MILLIKIN. Whether it be the United States or any other agency?

Mr. CARSON. That is correct.

Senator MILLIKIN. Private or public?

Mr. CARSON. That is correct.

Senator McFARLAND. But it goes back to the first act?

Mr. CARSON. It goes back to the first act. It relates back to the initial construction, if you have in the meantime complied with all the steps under the various water laws in the West.

Senator MILLIKIN. For example, let us assume you have a prior appropriation and that the land which you wish to water, we will say, is 30 miles away from the stream. I have a secondary appropriation; I made my first step after you did; my land is next to the stream. If you proceed diligently you can mature your right before I can mature mine, is that not correct?

Mr. CARSON. Yes; that is right, Senator.

Senator MILLIKIN. Of course.

The CHAIRMAN. Is that all, Mr. Carson?

Senator DOWNEY. No; I had not concluded.

The CHAIRMAN. I beg your pardon.

Senator DOWNEY. Mr. Carson, as a matter of fact, was not one of the reasons that this project and the compact were worked out was because the State of Colorado believed that it could not apply its water for a period of 40 or 50 years?

Mr. CARSON. I think that is true.

Senator DOWNEY. And is not Colorado determined that she shall be protected in that right for an indefinite period, even two or three generations; isn't that correct?

Mr. CARSON. I would rather they spoke for themselves. You are asking me what they think.

Senator DOWNEY. You are familiar with the records and the books?

Mr. CARSON. I am familiar with the records, here, that there is reserved to the upper basin States as a whole. They have not yet made any interstate compact dividing or apportioning the waters among themselves, but the whole upper basin, of Colorado, Utah, Wyoming, and New Mexico, there is reserved the right to the beneficial consumptive use of seven and a half million acre-feet, and there is no limit on the time within which they must put it to use.

Senator DOWNEY. Yes; very well. Now, Mr. Carson, under the Boulder Canyon Project Act, is it not a fact that the Secretary was authorized to begin the construction of the dam and the power plant and the works only when he had signed up sufficient contracts for the sale of power and water as would assure the maintenance and

the operation of all the project, the repayment of the cost of the project with interest, the payment of \$300,000 a year each to Nevada and Arizona for a period of 50 years—or maybe that is indefinite; at least for 50 years or more—and the payment of \$500,000 a year additional for 50 years for use in the upper and lower basin States for surveying and development; is not that true?

Mr. CARSON. No; you are confusing the terms of the original Boulder Canyon Project Act and the Boulder Canyon Project Adjustment Act.

Senator DOWNEY. Well, let us take the two, then, combined. Isn't that what they worked out to be?

Mr. CARSON. Substantially. There might be some little variation there in the amount to go into the development fund, but I haven't the figure.

Senator DOWNEY. There is \$25,000,000 that would not be repaid with interest and would only be repaid at the end of 20 or 50 years?

Mr. CARSON. Yes—things like that.

Senator DOWNEY. But, taken as a whole, the contracts that were signed up by the Secretary must reimburse the Government for all its expenditures plus interest, provide for the maintenance and operation of the entire project, provide \$600,000 a year to Arizona and Nevada and \$500,000 a year for the other States?

Mr. CARSON. Substantially; yes.

Senator DOWNEY. Yes.

Mr. CARSON. But of course, now, he must make contracts, Senator Downey, for the sale of power and water which, in his judgment, would be sufficient for those purposes.

Senator DOWNEY. Yes; that is right.

Mr. CARSON. And nobody guaranteed that they would repay to the Government the cost of that dam prior to its construction, in the usual sense of the use of the term "guarantee." If the power should not be generated, then the power contractors would pay nothing into that fund.

Senator DOWNEY. But, as a matter of fact, the plan was to have the Secretary secure such contracts as would bring in enough money to do these various things that we have mentioned, under the contract?

Mr. CARSON. Yes.

Senator DOWNEY. And of course those contracts were and are binding contracts upon the city and county of Los Angeles and the metropolitan irrigation districts and for farming districts, is that not true? I mean they are binding contracts?

Mr. CARSON. Oh, yes.

Senator DOWNEY. For the full 50 years?

Mr. CARSON. Yes.

Senator DOWNEY. And if for any reason the metropolitan irrigation district or the city or county of Los Angeles should fail to meet the purchase price that is due under the contract for this power they could be sued, could they not?

Mr. CARSON. If they get the power and did not pay for it; yes.

Senator DOWNEY. Naturally; and if, as a matter of fact, in the next 5 or 10 or 20 years we should develop some very cheap source of power from atomic energy or windmills or tides or the sun, and electric power become much cheaper, as most scientists think it will in the next decade,

we might find quite a heavy burden falling upon the agencies of California, might we not?

Mr. CARSON. Yes; that is possible.

Senator McFARLAND. Pardon me. Where were you going to get that cheaper power?

Senator DOWNEY. I can refer the distinguished Senator to several late articles in which it is anticipated by scientists that we will have much cheaper power.

Senator McFARLAND. Pardon me for interrupting. I was very much interested.

Mr. CARSON. May I interpose there just a second, Senator? The act did not specify the rate for this falling water per kilowatt-hour; it provided to meet competitive rates at points of distribution, and so forth; so that the rate was reduced from the first rate set up, from 1.63 mills per kilowatt-hour to, I think it was, in the neighborhood of 1.16 mills—somewhere in that neighborhood—because the power contractors claimed that the competitive rate justified the reduction; so I would assume if power were available from any atomic development, or the tides, that would sell in the points of distribution of this power for lower rates—that the rate of this power would likewise again be reduced.

Senator DOWNEY. But nevertheless, Mr. Carson, it is true that the water and power users in the United States would have to continue to pay sufficient revenue to the Government to accomplish these purposes in the two acts?

Mr. CARSON. Provided the power were generated and the water delivered.

Senator DOWNEY. Was there anybody from Arizona or Nevada or New Mexico that came forward to buy any of this power and to guarantee this, except from the agencies of California?

Mr. CARSON. No. Let me amplify that. I do not want you to try to leave that kind of impression, Senator Downey.

Senator DOWNEY. I do not want to leave any impression.

Mr. CARSON. At that time, the Secretary of the Interior made contracts with the users of power and water in California, which in his judgment were sufficient to repay the cost of the dam. Arizona did not make any such contracts at that time because the Secretary of the Interior would not contract with people in Arizona who might want to use the power until the State had ratified the Colorado River Compact, which it had not done. It did do that last year and has established the State agency to deal, an Arizona power authority, to take Arizona's 18 percent of the power at Boulder out under the regulation as available for use in Arizona, to distribute through Arizona; and we will be in there, we hope, taking power and paying the same rate for the falling water per kilowatt-hour that you are paying, and we will be very glad to get it, because it is a cheaper rate than we can otherwise obtain in Arizona.

Senator DOWNEY. Mr. Carson, let me immediately be understood. I haven't the slightest criticism or any implication from what I said of criticism against Arizona. I did just want to develop it to the very fullest extent it is the truth—that the burden of providing revenues to build this great project came in the beginning to California.

Mr. CARSON. Oh, yes; that is true.

Senator DOWNEY. And I do not want to worry about Arizona.

Mr. CARSON. I do not know of any other.

Senator DOWNEY. Let me ask you this: Lower California, at least, has not done anything toward the financing or the construction of Boulder Dam, has she?

Mr. CARSON. No; not directly into the United States Treasury. She probably has paid some moneys to the Mexican subsidiary of the Imperial irrigation district for the delivery of water for use on Mexican land, but none as I know of directly into the Treasury of the United States.

Senator MURDOCK. Mr. Chairman, if I may just interrupt, there. On this burden, supposed to have gone to California, notwithstanding the fact that Utah furnishes about 13 percent of the water that flows into Boulder Dam, we found ourselves for some reason absolutely shut out as a customer for any power at Boulder Dam, and I just want to say that if California or Arizona ever come to the conclusion that there are a few kilowatts of power there that you do not want, we will buy them up in Utah.

Senator DOWNEY. I surely would like to support my good friend from Utah, if they want electric power there, in helping you secure it. I did not know anything about that condition.

Now, Mr. Carson, let us proceed to the next. Is it not true that at the time Boulder Dam was constructed there was only seven or eight million acre-feet of water, on an average, in the Colorado River system available for irrigation, that could be used under the—

Mr. CARSON. I am not prepared to say that, Senator. I do not know what you mean by "available." There was then, according to the records that I have seen, about the same quantity of water there is now, about 18,000,000 acre-feet.

Senator DOWNEY. Oh, yes, Mr. Carson; but that is hardly a fair answer.

Mr. CARSON. Well, what do you mean by "available"?

The CHAIRMAN. Now, Senator.

Senator DOWNEY. Very well; I will withdraw it.

The CHAIRMAN. Senator, he answered you the best he could.

Mr. CARSON. What do you mean by "available"?

Senator DOWNEY. Let us develop the facts then, Mr. Carson. As a matter of fact, the great part of the flow of the Colorado River is what we call a "flood flow," is it not?

Mr. CARSON. Oh, yes; a great deal of it.

Senator DOWNEY. And perhaps 80 percent of that water comes down in the spring, or early spring, does it not?

Mr. CARSON. I do not know the percentages of those floods.

Senator DOWNEY. A very large percentage?

Mr. CARSON. There is usually a large spring run-off, and the river is low in the late summer.

Senator DOWNEY. And it is the lowest at the very time you want to use it for irrigation, is it not?

Mr. CARSON. Yes; in the lower basin; yes.

Senator DOWNEY. In other words if, of the 16,000,000 acre-feet, seven or eight million acre-feet came down, in January, February, and March, we would not be able to use very much of that—say, January, February, March, and April—would we?

Mr. CARSON. Oh, that is true; yes. It would go through in the form of a flood and not be available there in the summer when ordinarily crops would be requiring water.

Senator DOWNEY. Mr. Carson, you must know in a general way that at the time Boulder Dam was built all of the water on the Colorado River that was available for irrigation had been appropriated by Wyoming, Colorado, New Mexico, Utah, Arizona, Nevada, and California, had it not—was being used?

Mr. CARSON. No; I do not think so, Senator Downey; I do not think so. The upper basin still does not have the benefit of storage, and I do not think they have yet reached the full utilization of their water.

Senator DOWNEY. Mr. Carson, I am just talking about the direct flow of the stream.

Mr. CARSON. I am, too. I am, too.

Senator DOWNEY. Well.

Mr. CARSON. They do not yet have the benefit of storage in the upper basin, and I do not think they have yet reached their full utilization of water in the upper basin, and I do not think they had reached it at the time of Boulder Dam.

Senator DOWNEY. You mean, of the low run-off of the stream?

Mr. CARSON. Yes.

Senator DOWNEY. Now, Mr. Carson, that is very interesting, to me. You are expressing the opinion to me and to the committee that at the time Boulder Dam was built up in the Colorado and in the upper basin States, the low run-off of the river had not been clearly appropriated.

Mr. CARSON. I do not think it had, Senator, in either basin.

Senator DOWNEY. What is that?

Mr. CARSON. I do not think it had, in either basin.

Senator DOWNEY. In either basin?

Mr. CARSON. I am not an engineer, though, and that is a phase of this engineering memorandum again that I did not look up in preparation for this hearing, but it is my impression that the natural flow of the river had not been entirely appropriated in either the upper or the lower basin at the time Boulder Dam was built, and it is my impression that the building of Boulder would not store any floodwaters which would be available for use in the upper basin.

Senator DOWNEY. Mr. Carson, I know, as a brother lawyer, you will agree with me on this, that this point of fact that you and I are discussing is of very great importance in this argument, because if what you say is true, that the normal flow of the river, the natural unregulated flow of the river, had not been thoroughly appropriated up to the time of Boulder Dam, then there was water that was coming to the Colorado River and to Mexico above 750,000 acre-feet.

Mr. CARSON. Yes.

Senator DOWNEY. That she might have been able to use by irrigation, from the natural flow of the stream.

Mr. CARSON. Yes; I think it was there. Our engineers think it was there.

Senator DOWNEY. I see. And you, believing that this is a fair treaty, base that belief upon the existence of this fact that you have just stated, in your mind?

Mr. CARSON. Senator Downey, I think I have made it clear. I place my belief that this treaty is in the interest of the United States because it puts an over-all, all-time limit on Mexico's use and claim of use of water, at what I consider to be the lowest point at which it is possible to get Mexico's consent. That is why I am for the treaty. And I base my conclusion on the over-all considerations, and I do not pick out, the way you are seeking to have me do, specific things and points. You must consider this as a whole, interrelated with all the questions that are involved.

Senator DOWNEY. But, Mr. Carson, do you not see that in judging the respective rights honestly and fairly between Lower California and the users in the United States that it is of the utmost importance to determine that fact, whether there was still unappropriated water in the natural flow of the stream, in 1905, or whether this water that Mexico has been taking since then comes not from the normal flow of the stream but comes from Boulder Dam?

Mr. CARSON. Yes; and I have told you that our engineers have advised me that in their opinion the water was in the river, in Mexico, prior to the construction of Boulder Dam, which would have permitted Mexico, had economic conditions permitted, to utilize somewhere in the neighborhood of 2,000,000 acre-feet; they cannot say exactly, because there is another question, there; but somewhere in between 1,700,000 acre-feet and 2,000,000 acre-feet.

Now, Senator Downey, this is the situation on that as I see it. In our opinion, based upon engineers' reports, it was possible for Mexico to have acquired a right in the natural condition of the river, in the natural flow of the stream, of 1,700,000 to 2,000,000 acre-feet, prior to the construction of Boulder Dam.

Senator DOWNEY. Well, Mr. Carson, let me tell you, I rate that fact as of such importance that, if you are correct, my attitude upon this treaty will be changed; and, in fairness, I should think you would do that if on the contrary your engineers have misinformed you, and the unregulated flow of the river had been used up for many years, and there was a shortage in the unregulated flow of the river, that you would change your opinion.

Mr. CARSON. Well, I could not quite go that far, Senator Downey, and I will tell you why. In 1943, Mexico used 1,833,000 acre-feet of water of the Colorado River system.

Senator DOWNEY. What year? 1944?

Mr. CARSON. 1943. And in my judgment if Mexico today invoked the aid of this Inter-American Treaty of Arbitration, in all probability that court of arbitration would award her not less than 1,800,000 acre-feet of water, regardless of what the natural flow of the stream was before Boulder Dam. In other words, I do not think that you can expect that court of arbitration to try to relate Mexico's right back prior to the construction of Boulder Dam. They will take it as it is whenever it comes before them. I have never found in any of these matters that they have taken any other course, or where the downstream country was awarded less water than it was then using, except in this particular treaty here, where it is reduced from 1,800,000 acre-feet to 1,500,000 acre-feet.

Senator DOWNEY. Now, let me see if I clearly understand you. You are of the opinion that the water that Mexico has appropriated out of the stream since the building of Boulder Dam, whatever that may be,

1,000,000 acre-feet, more or less, you are of the opinion that that could have come from the natural flow of the stream, that had not been absorbed by the rights, in the United States, vested before the building of Boulder Dam?

Mr. CARSON. Yes; water to that quantity; yes.

Senator DOWNEY. Nevertheless, as you say, all that is aside; but still you do not think it makes any difference, before a court of arbitration or before this group, whether the water does come from the direct flow of the river, or out of Boulder Dam?

Mr. CARSON. I do not think it would make any difference in the court of arbitration.

Senator DOWNEY. And you think a court of arbitration then would award to Mexico water that is only in the river by virtue of a reservoir that we have constructed on American soil with our own money; you think that, do you?

Mr. CARSON. Senator Downey, let me answer that in this way. There are engineers here who have calculated, as I said before, the percentage of the water of the Colorado River system flowing through Boulder Dam, that might be considered stored water, and my information is that no more than 5 percent of the water flowing through Boulder Dam can be considered as stored water; that is, 5 percent of the water that has been utilized below, including the uses in Mexico, that have occurred. They have told me. One of them told me that his calculations showed that since Boulder Dam has been used, we, in California, Arizona, and Mexico, below Boulder Dam, had utilized some 45,000,000 acre-feet, over the period that he calculated; that, of that amount, some million and a half, or 2,000,000 acre-feet, was all that could be considered as stored.

Now, that would figure out to be somewhere between 4 and 5 percent. If you should be right on that, and these engineers should be right, and you took 3 percent of 1,800,000 acre-feet as being the quantity of water that Mexico had used, that had been stored in Boulder Dam, then you would still come pretty close to the amount here provided.

Senator DOWNEY. Mr. Carson, I did not fully follow your figures on that last statement, so I will not interrogate you on it. Now, Mr. Carson, you heard Mr. Lowry present his figures.

The CHAIRMAN. Senator Downey, I do not think it quite fair to the witness to go back and take some other man's testimony and make him construe that and pass judgment on what somebody else has testified. The committee wants to be liberal with you in the time, and in that, but frankly the Chair does not think that is quite fair.

Senator DOWNEY. Very well, Mr. Chairman, I will abide by your request.

The CHAIRMAN. If he knows anything of his own knowledge, go ahead and develop it. I hardly think it is fair for him to be forced to construe and pass on the motives and the intentions of other witnesses that have already appeared here.

Senator DOWNEY. Very well, Mr. Chairman. I will ask a question in a different way.

As you know, Mr. Carson, the average run-off of the Colorado River over the last 47 years is something slightly over 18,000,000 acre-feet; is that right?

Mr. CARSON. Somewhere in that neighborhood; yes.

Senator DOWNEY. But also, Mr. Carson, you do know that in that 47 years we have had two decades of low run-off, in which the average run-off has been considerably lower than that, have we not? Is not that true?

Mr. CARSON. Yes. I am not sure how long the first one lasted. I know there was a very low period there shortly after the turn of the century.

Senator DOWNEY. Yes.

Mr. CARSON. But I do not know how long it lasted.

Senator DOWNEY. We have had two periods of almost a decade in which we have had low run-offs?

Mr. CARSON. Yes.

Senator DOWNEY. Is it not your judgment as a careful lawyer, and I am sure you are one, that in attempting to anticipate the effect of this treaty on the rights of the United States, we should take the amount of the water that might be available over a decade on a low-run-off, rather than on a longer period over 47 years?

Mr. CARSON. No.

Senator DOWNEY. Well, wait. I mean the next run-off that we could get in conjunction with the Boulder Dam, of course.

Mr. CARSON. Well, with that, provided however that you had this further qualification, Senator Downey, that I think that we should increase the storage capacity of the river, and when we do that that 10-year drought period which we had in the last decade will be leveled off and equated, so it would not instill in me a fear that it apparently has in some of the opponents of this treaty. I think there will be engineers here that would be able to tell you how much storage on the Colorado River would be sufficient to completely equate and remove the dangers that might otherwise be, on account of low-flow periods; but the point with me is that that is all in our control, in the control of the United States, if we can get this over-all, definite limit on Mexico. Then it is up to us in the United States and in these various basin States, to take whatever steps are necessary to conserve water, to store it, to get over any low flows that might occur.

Senator DOWNEY. All right.

Mr. CARSON. So therefore our engineers say that in their judgment it is not good practice and never has been good practice to take the low-flow period to the exclusion of the long-time average.

Senator DOWNEY. These engineers that you speak of I assume will later testify, Mr. Carson, and then we can get their understanding of it.

Mr. CARSON. Well, not all the ones I have consulted, but Mr. Tipton and some of these other engineers are here who will testify.

Senator DOWNEY. Mr. Carson, have you considered the possibility that under the terms of the treaty and under the provisions by which Mexico can demand the measurement out of this water, that rather than getting 1,500,000 acre-feet under the terms of the treaty, she will get 1,500,000 acre-feet plus a substantial volume of the return flow that will not be charged against her? Have you considered that possibility?

Mr. CARSON. That might be possible.

Senator DOWNEY. Yes.

Mr. CARSON. That though again, Senator, is in our control in the United States. If water in this basin becomes so precious that the expenditure is justified we can build more dams and prevent a lot of that that might flow through Mexico, outside of these Mexican schedules, from crossing the border until it was usable within the schedule submitted by Mexico. Now, that is in our hands.

Senator DOWNEY. I evidently misunderstood you, Mr. Carson, and the other witnesses. I thought your testimony was that the engineers had told you that there would be at least 1,000,000 acre-feet of return flow that we would not be able to keep from going down into Mexico.

Mr. CARSON. Within these schedules.

Senator DOWNEY. What is that?

Mr. CARSON. Yes; and within the schedules that are contemplated by this treaty. They think that is true, but, in addition to that, they think there might be some other flows for which we would not get credit under this treaty.

Senator DOWNEY. Yes, but, first, Mr. Carson, because I am a little bit confused, do I understand that the advice from your engineers and that on which you rely is that there will be in excess of 1,000,000 acre-feet of return water at the border?

Mr. CARSON. Yes.

Senator DOWNEY. Or below?

Mr. CARSON. Yes.

Senator DOWNEY. That we will not be able to cut off or to use in the United States?

Mr. CARSON. Yes.

Senator DOWNEY. And you think that is right?

Mr. CARSON. Yes, I think that is right.

Senator DOWNEY. Well, all right.

Mr. CARSON. But let me add this; whether or not that is right, Senator, I would still be for this treaty.

Senator DOWNEY. Yes, I understand that. You have made that clear; but the point I am trying to develop now is not that this treaty means 1,500,000 acre-feet of water to Mexico but it means probably as much as you are going to get in Arizona with this treaty. Now, isn't it possible that if the underground flow does amount to something over 1,000,000 acre-feet—and I hope it will—but if it does, isn't it possible there might be three or four hundred thousand or maybe 500,000 acre-feet of water go down to Mexico at such times as she would not have ordered it in her schedule?

Mr. CARSON. That might be possible.

Senator DOWNEY. That is true?

Mr. CARSON. But as I say, that is up to us in the United States to build dams and hold that back until it is within her schedules.

Senator DOWNEY. You are not speaking as an engineer when you suggest that, are you, Mr. Carson?

Mr. CARSON. Well, I am speaking as a citizen of the United States—that I think would be possible. Now, for instance, there is now approximately as I understand some two to three hundred thousand acre-feet of flood and other waters going down the Gila River to Mexico. These engineers of the Bureau of Reclamation have indicated that one of the things that they think will be advisable for the United States to do eventually would be to build a dam at the

Sentinel site on the lower Gila River and hold back those excess flows until they can be delivered to Mexico in accordance with its schedules.

Senator DOWNEY. You mean the underground seepage?

Mr. CARSON. No, no—in the river. Oh, you are talking about underground seepage? I thought we were talking about a return flow, Senator. I beg your pardon. If you repeat it, I will do the best I can.

Senator DOWNEY. Well, you do think, then, that there would be a return flow that we would be able to control?

Mr. CARSON. Yes.

Senator DOWNEY. But not that we could use in the United States?

Mr. CARSON. Yes.

Senator DOWNEY. I am a little bit confused, myself. You mean that you do not think we could use it in the United States?

Mr. CARSON. That is right.

Senator DOWNEY. But that we would be able to so handle that return flow that it could go down to Mexico, so that she would be compelled to take it as a part of her schedules of delivery?

Mr. CARSON. Yes, sir.

Senator DOWNEY. That is right?

Mr. CARSON. Yes, sir.

Senator DOWNEY. But you admit the possibility that that might not be true?

Mr. CARSON. Well, I think it would be within our power.

Senator DOWNEY. I see.

Mr. CARSON. I do not know whether it would ever be economical, proper, or feasible to do it until we in the United States have more nearly reached our total utilization of water.

Senator DOWNEY. Mr. Carson, is it not true that in Lower California there is a substantial basin or reservoir of underground water?

Mr. CARSON. I am informed that there is. I haven't any personal knowledge of that, or any engineering studies; but now I think I see what you are driving at. Now, let me see if I am correct. You want to know whether or not under this treaty the United States would get credit for water percolating through the ground under the international border?

Senator DOWNEY. Oh, no; I know that is not true. I am trying to show that Lower California has available to it a very large supply of underground water.

Mr. CARSON. Well, I do not know about that.

Senator DOWNEY. You do not?

Mr. CARSON. My information is that its only source of supply for irrigation of Mexican lands is about like those of us in Arizona and California—the Colorado River. I mean southeastern California—the Colorado River; and I would assume that if there is any such underground basin of water, fresh water, in Lower California, it is furnished by the Colorado River, by seeping through underneath the ground into it.

But if that is true, and it comes from the river, which crosses the border, the upper boundary or the lower boundary or anywhere—in between in the channel of the river—then we would have gotten credit for it against this treaty, and the only water that would be in it that

we did not get credit for that came from the river would be that that went across the boundary underground, percolating. That is the way I understand it.

Senator DOWNEY. Have your engineers given you any advice as to the extent to which there might be underground waters available in Lower California for pumping irrigation?

Mr. CARSON. No, sir.

Senator DOWNEY. Do you think that if there was a large reservoir or volume of water there that would be available to Mexico to pump, as you have pumped in the Salt River Valley, I understand, that would not go there as part of her schedule of delivery, that it ought to be in the schedule of delivery?

Mr. CARSON. No, sir. I think our danger from Mexico relates to the surface waters of the main stream of the Colorado River.

Senator DOWNEY. Have you considered that possibility?

Mr. CARSON. I do not know a feasible way that either Mexico or we could measure any waters that percolate across the border underground; and even if we tried to take it into consideration, again I think unless we have a definite, specific, over-all, all-time limit on Mexico, it would always be subject to dispute and argument and permit Mexico to come in under the Inter-American Arbitration Treaty, which we are trying to avoid.

Senator DOWNEY. Have you considered the possibility that sometime in the future Mexico may begin to utilize, by pumping, her underground waters and thereby, by releasing pressure in the geological structure, cause a diminution in the channel flow? Have you considered that possibility?

Mr. CARSON. No, sir.

Senator DOWNEY. Would that affect you in any way—

Mr. CARSON. No, sir.

Senator DOWNEY (continuing). If you knew that Mexico might get another two or three hundred thousand acre-feet of water in that way?

Mr. CARSON. I do not think they could.

Senator DOWNEY. But assume that.

Mr. CARSON. Well, Senator, if it crossed the boundary of the river at the upper boundary, at the lower boundary, or anywhere else between, on the surface, we would get credit for it against this 1,500,000 acre-feet.

Senator O'MAHONEY. I understand that; but I am talking about long-time underground seepage and percolation.

Mr. CARSON. If any water percolated under the land boundary between the two countries, we would not get credit for it under this treaty. That is the way I see it.

Senator DOWNEY. I asked you if, as a matter of fact, it should develop that when Mexico begins to pump down there, by releasing pressure in the underground reservoir, it would reduce the channel flow, we should receive credit. Do you think that is a fact for which we should receive credit in making this treaty?

Mr. CARSON. No, sir.

Senator DOWNEY. I think that is all I have to ask, Mr. Chairman.

The CHAIRMAN. Are there any other questions?

Senator TUNNELL. Mr. Carson, I am speaking as a lawyer from a State where the ditches all drain water off rather than on.

Mr. CARSON. Yes; I know.

Senator TUNNELL. Assuming that Mexico were a State of the Union, would the owners or would Mexico have any right to the upper waters at all until used?

Mr. CARSON. No, sir.

Senator TUNNELL. There is no right at all?

Mr. CARSON. That is right. Ours is a law of prior appropriation. We have completely done away in the arid Western States with the riparian law that you have in Delaware.

Senator TUNNELL. I was trying to see what rights California has as one of the lower States under that theory.

Mr. CARSON. California and Arizona are two of the lower States. Their rights are very similar. California furnishes no water to amount to anything to the stream. We do furnish some, but nothing in comparison with what comes down to us from the upper basin. So our rights on that ground are very similar to those of California. They are very similar in both California and Arizona.

California, at least so far as relates to the Colorado River, has the same law of prior appropriation as the other arid States have. So as between individuals, then, the first user has the first right, no matter whether he is on the stream or miles away.

Senator TUNNELL. Until there is a user, there is no right?

Mr. CARSON. That is right.

Senator TUNNELL. That answers my question.

Senator O'MAHONEY. Your testimony is, so far as I have heard it, that, in your opinion, this treaty will make it possible for water users in the United States in the upper basin and in the lower basin to make full utilization of the entire flow of this river, with the exception of 1,500,000 acre-feet of firm water to be delivered to Mexico and 200,000 acre-feet of the surplus.

Mr. CARSON. We can in the United States, in the upper basin and the lower basin, as I understand it, then have a green light to go ahead and develop full use of all waters of the Colorado River with the exception of 1,500,000 acre-feet to Mexico.

Senator O'MAHONEY. Precisely; and 200,000 acre-feet of surplus water?

Mr. CARSON. No, they cannot acquire any right to that; that is absolutely within the discretion of the United States.

Senator O'MAHONEY. So the people of the United States in the upper basin and the lower basin can utilize the full flow of this river without any complaint from Mexico, provided we continue to deliver 1,500,000 acre-feet annually?

Mr. CARSON. Yes.

Senator O'MAHONEY. That protects us for the entire future?

Mr. CARSON. Yes, sir.

Senator O'MAHONEY. According to your point of view, this treaty purchases for the upper basin States and the lower basin States complete freedom for the entire future to use everything in the river above 1,500,000 acre-feet?

Mr. CARSON. Yes, sir.

Senator MURDOCK. You stated, I believe, that 1,500,000 acre-feet is the minimum, in your opinion, that Mexico would agree to?

Mr. CARSON. Yes, sir.

Senator MURDOCK. Now, has the minimum that Mexico will agree to been your approach to this treaty?

Mr. CARSON. Yes.

Senator MURDOCK. Rather than the minimum under all circumstances that we in good conscience can ask her to accept?

Mr. CARSON. No; there is no difference between those two.

Let me say this, Senator Murdock, in answer to your question: The State Department and the International Boundary Commission requested the Committee of Fourteen and Sixteen, representing seven Colorado River States, to consider the Colorado River alone without reference to any other matter—or the Rio Grande—and determine in the minds of the Committee of Fourteen and Sixteen whether or not a treaty with Mexico was advisable at this time relating alone to the Colorado River. They asked them to consider it in that light.

The Committee of Fourteen and Sixteen did consider it in that light partially for the same considerations I have tried to present here today, and they came to the conclusion that the treaty was necessary, and they then went on to see how much water they thought would be the minimum that we in good conscience could ask the State Department to put up to Mexico and that Mexico might accept.

Senator MURDOCK. You would say that that has been the approach?

Mr. CARSON. That has been the approach.

Senator MURDOCK. Of the Colorado River Basin States?

Mr. CARSON. Yes.

Senator MURDOCK. It seems to me that that is the proper approach, rather than the amount that Mexico might be willing to agree to.

Mr. CARSON. Well, we have done that. The Committee of Fourteen and Sixteen recommended a formula to the State Department, and in some respects this treaty is more favorable to the United States than the formula which the Committee of Fourteen and Sixteen indicated they thought we should get to if necessary.

Senator McFARLAND. I have just wondered, Mr. Carson, if you wanted this mimeographed statement to be placed in the record.

Mr. CARSON. Yes; I gave it to the reporter.

The CHAIRMAN. Without objection, it will be printed in the record. (The statement referred to is as follows:)

STATEMENT ON BEHALF OF ARIZONA IN SUPPORT OF RATIFICATION OF THE TREATY
WITH MEXICO

My name is Charles A. Carson. As attorney for the Colorado River Commission of Arizona and Gov. Sidney P. Osborn, of Arizona, I am here to present the views of the Governor, the Colorado River Commission of Arizona, the State land and water commissioner of Arizona, and the engineers of the State of Arizona, and of every other executive official of the State of Arizona who is charged with responsibility in this matter.

In addition, a joint memorial to the Senate urging ratification of this treaty was passed by the Arizona Senate unanimously and by the Arizona House with only 1 dissenting vote.

We in Arizona, as much if not more than the people of any other section of the United States, have a keen appreciation of the value of water. Nowhere in the world is water of greater value than in the deserts of Arizona and southeastern California, not only to the people who live in those deserts but to the entire United States.

In the relatively short span of 80 years, Arizona has attained a growth and a population in excess of 500,000 people, exclusive of the influx due to the war, which influx numbers some 200,000 people.

Arizona has done this by the beneficial consumptive use, diversions less return to the river, of not to exceed 1,500,000 acre-feet of water per year. Our people have through the use of water provided homes for themselves and families, provided and maintained a progressive civilization with all that goes with such a civilization in the United States. Our people come from every State in the Union and our citizenry are second to none in courage, in vision, and fidelity to duty. Our accomplishments are not without value to the United States as a whole.

Laying aside the question of human welfare and looking at the progress of Arizona solely from the standpoint of what financial return is made to the Treasury of the United States, it is interesting to note that during the year 1944 the people of Arizona through the payment of taxes returned in excess of \$25,000,000. In addition, they bought in excess of \$125,000,000 worth of War bonds. This amounts to a return to the Federal Treasury of \$100 in 1 year for each acre-foot of water beneficially consumptively used.

We in Arizona have need for more water than can be supplied from the Colorado River system and we have no other source from which we can obtain water.

We have, therefore, approached the consideration of the Mexican treaty with an earnest hope of holding apportionment of water to Mexico to the lowest possible quantity, for it is true that of each acre-foot of virgin water per year going to Mexico, approximately one-half comes from water that would under the Colorado River compact, the Boulder Canyon Project Act, the California limitation, and the Arizona contract be utilized in Arizona to the everlasting benefit of the people of Arizona and of the United States.

After considering as best we may all of the complicated questions involved, the Governor of Arizona, the Colorado River Commission of Arizona, the State land and water commissioner of Arizona, the engineers and every executive public officer of the State of Arizona charged with responsibility in this matter and the legislature are agreed that the long-range best interests of Arizona and the United States require the ratification of the pending treaty. The controlling considerations, so far as Arizona is concerned, are three:

1. The rapidly expanding use of water in Mexico; each year since Lake Mead filled there has passed out of the United States to Mexico in excess of 10,000,000 acre-feet of water. This will continue in progressively diminishing quantity for many years. Our engineers estimate that it will be at least 40 years before this flow will be diminished below 5,000,000 acre-feet. There are in Mexico approximately 1,300,000 acres of land readily susceptible of irrigation with the waters of the Colorado River, some requiring a pump lift, but not to exceed 60 feet. It is relatively easy and inexpensive to irrigate the land in Mexico with the water now flowing through Mexico in an equated flow, which does away with the dangers of floods and also assures an adequate supply through the irrigation months.

Mexico has rapidly expanded her use and in each of the years of 1943 and 1944 she used in round numbers 1,800,000 acre-feet of water. There is every reason to believe that in the future unless the matter of apportionment is settled by treaty, Mexico's use would continue very rapidly to expand. It is very probable in our judgment that unless some action is taken at this time, Mexico's use of water, if unchecked, will ultimately reach in excess of 5,000,000 acre-feet per annum.

2. The Inter-American Arbitration Treaty which was signed on behalf of the United States in 1929 and ratified by the Senate in 1935, in our considered judgment is binding upon the United States and its terms are so broad that, in our judgment, it includes the obligation upon the United States to arbitrate under its terms the question of the division of the use of the water of the Colorado River as between Mexico and the United States at any time that Mexico should desire to invoke that treaty.

We believe that a refusal on the part of the United States to arbitrate at Mexico's request the apportionment of the use of the waters of the Colorado River would involve a repudiation and abrogation of that treaty by the United States, and we do not believe anyone has any reason to hope that such repudiation and abrogation will ever occur in view of the fact that the Inter-American Arbitration Treaty is signed by all of the American republics and is the foundation and keystone of the better relations existing between nations in the Western Hemisphere under the good-neighbor policy.

We believe that a repudiation or abrogation of that treaty or a refusal by the United States to arbitrate the question of the apportionment of the use of water of the Colorado River would so seriously impair or destroy the friendship

of the other American republics for the United States and the prestige and standing of the United States in world affairs as to render such action unthinkable.

We believe that if Mexico should continue to grow and develop through the use of the water of the Colorado River until she were putting to use annually a quantity of water greatly in excess of that permitted by the pending treaty, perhaps to the extent of 5,000,000 to 6,000,000 acre-feet of water within 20, 30, or 40 years, and if Mexico should then invoke the provisions of the present binding Arbitration Treaty and the question were submitted to the Court of Arbitration set up by that treaty, that in all probability the Court of Arbitration would award to Mexico for all time the use annually of the quantity of water of the Colorado River which Mexico was using at the time the treaty was invoked.

We have examined international precedents in treaties apportioning the use of international streams and we have found no instance in which a treaty provided that the downstream uses should in the future be less than they were when the treaty was negotiated, except the present pending treaty, which does reduce Mexico's firm right from something in excess of 1,800,000 acre-feet to 1,500,000 acre-feet. In other words, we believe that this treaty is more favorable to the United States as to quantity of water than would be any award today by a Court of Arbitration under the Inter-American Arbitration Treaty, should that treaty be invoked today by Mexico. Of course, there are provisions in this treaty which compensate Mexico: An assured supply synchronized to meet her seasons and delivery free of cost.

3. The provisions of the pending treaty are so drawn that the United States gets credit upon the 1,500,000 acre-feet allocation to Mexico for all return flow, within the schedules set up, entering the boundary section of the river below Imperial Dam. Our engineers estimate that when we in the lower basin, the deserts of Arizona and the deserts of southeastern California, have reached our ultimate development and utilized every drop of Colorado River water which we can under the law and the Colorado River compact lawfully use, that there will enter the boundary reach of the river, below Imperial Dam, return flow and desilting water in excess of 1,000,000 acre-feet per year. Some estimates run as high as 1,375,000 acre-feet of return flow.

There is no guaranty in the treaty of the source of supply or the quality of any water. Mexico is required under the terms of the treaty to accept in discharge of the treaty-obligation water from whatever sources. We, therefore, estimate that under the terms of the pending treaty it will never be necessary for the United States to furnish virgin water from storage at Davis Dam in excess of 500,000 acre-feet per year and probably not in excess of 375,000 acre-feet.

The delivery of water in quantities somewhere between these two estimates, together with the return flow will fully discharge the obligation to Mexico. With the Mexican burden thus defined and limited for all time, we can proceed with confidence to the ultimate utilization of water of the Colorado River within the United States and within each State in the Colorado River Basin to the limit of now legally defined and limited rights, and we believe that such an allocation to Mexico will not impair any existing established right in any of the States of the Colorado River Basin, and we believe that such allocation to Mexico will not in any degree impair any existing contracts made by the Secretary of the Interior for the delivery of water in southern California or in Arizona or in Nevada.

California spokesmen have requested resolutions opposing the treaty from many groups who have no direct concern in this matter, as well as from some groups who do have a direct concern. We, of course, were not asked and were not present at the meetings at which California requested, and in some instances obtained, resolutions in opposition to the treaty, but some of our people in Arizona were present at some of these meetings and it has been reported to us that California spokesmen never did in any meeting of which we have knowledge explain to that meeting the present flow of the water through Mexico, the present use of the water in Mexico, and the rapidity of the expansion of use of water in Mexico, nor the applicability of the Inter-American Treaty of Arbitration, nor the provisions of the pending treaty which assure to the United States credit for return flow, nor any estimate of that return flow.

California spokesmen, so far as we are informed, have not presented to any of these bodies, some of them passing resolutions, the reasons which compel our conclusion that the treaty should be ratified.

We, of course, do not know the reason for the failure of California spokesmen to present or discuss the considerations which to us seem controlling. It may be that they believe that they have no merit. Not even enough merit to be discussed. It may be that in their anxiety to obtain resolutions in opposition to the treaty they dare not take a chance in presenting them. It may be that the fact that the Imperial irrigation district plans to make a considerable financial return each year out of the delivery of more water to Mexico than is permitted under the treaty has something to do with their failure to discuss the controlling issues. It may be that in conjunction with the plan of the Imperial irrigation district the fact that certain California financiers had and reputedly still have financial interests which would be furthered by the irrigation and development of lands in Mexico, a part of the 1,300,000 acres susceptible of irrigation with water of the Colorado River, has something to do with the failure of California spokesmen to present or discuss or refute the considerations which to us seem controlling.

We think it will not be denied that the Imperial irrigation district of California has an excess capacity in the All-American Canal down to Pilot Knob of 3,000 cubic feet per second, nor will it be denied that Pilot Knob is a proposed power site through which it is possible to generate power by the dropping of water into Mexico, or rather at a point immediately adjacent to the Mexican border from which it is impossible to put to use in the United States any of the water delivered through that drop, but from which it is a very simple matter to take the water into the Alamo Canal in Mexico, already constructed, and to deliver water passing through Pilot Knob drop to Mexican lands in which certain California men are reputed to have had financial interests.

Three thousand cubic feet per second amounts to approximately 2,190,000 acre-feet per year. The treaty limits deliveries through Pilot Knob until 1980 to 500,000 acre-feet per year and after 1980 to 375,000 acre-feet per year. This limitation is necessary to assure the United States credit for return flow which enters the river below Imperial Dam from which water is diverted into the All-American Canal.

We think it will not be denied that the Imperial irrigation district in 1935 applied to the Public Works Administration for an allocation of money with which to construct a power plant at Pilot Knob and in that application recited that they proposed to divert at Imperial Dam and drop through the Pilot Knob power plant 4,500 cubic feet per second which amount is in excess of 3,000,000 acre-feet per year. We think it will not be denied that in the year 1943 the Imperial irrigation district sought to secure from the Secretary of the Interior delivery of additional water which would enable the Imperial irrigation district to deliver to Mexican lands, through Pilot Knob, substantial additional water over and above the 1,000,000 acre-feet which the Imperial irrigation district has been delivering for the past several years.

We think it will not be denied that again in 1944 the Imperial irrigation district again sought to secure from the Secretary of the Interior authority for the district to substantially increase its water deliveries to Mexican lands over and above the 1,000,000 acre-feet.

We think it will not be denied that in the fall of 1944 the Imperial irrigation district attempted to obtain from the War Production Board priorities which would permit the immediate construction of a power plant at Pilot Knob knowing that the water passing through such power plant would be available for delivery to Mexican lands, and we think it will not be denied that for all such deliveries the Imperial irrigation district seeks to make a charge against Mexican landowners for the delivery of that water.

We think it will not be denied that the Imperial irrigation district now wholly owns, controls, and operates a subsidiary Mexican corporation organized under the laws of Mexico, which Mexican corporation owns, controls, and operates the Alamo Canal system and that through that means the Imperial irrigation district realizes revenue through charges made to Mexican landowners, which revenue is directly proportionate to the quantity of water which the Imperial irrigation district through its Mexican subsidiary corporation delivers to Mexican lands.

We think it will not be denied that that subsidiary Mexican corporation in obtaining its concession from the Mexican Government to divert 10,000 cubic feet per second through the Alamo Canal in Mexico which still delivers water to Mexican lands and which prior to the construction of the All American Canal delivered water to lands in the Imperial irrigation district in California, agreed that half of the water diverted should be available for use on Mexican lands and that for many years before the construction of Boulder Dam there was

diverted through that canal 3,000,000 acre-feet per year of which Mexican land-owners had the right to use one-half or 1,500,000 acre-feet per year.

The Imperial irrigation district, therefore, through its subsidiary Mexican corporation is under contract with the Mexican Government to deliver water to Mexican lands to the extent of one-half the water diverted through the Alamo Canal and has a right to divert 10,000 cubic feet per second which amounts to 7,200,000 acre-feet per year, and one-half of that amount, if diverted, would be usable in Mexico, which one-half if diverted would amount to 3,600,000 acre-feet per year. So far as we are informed that contract is still in effect.

We think it will not be denied that the late Mr. Chandler of Los Angeles testified on May 7, 1924, before the Committee on Irrigation and Reclamation of the House of Representatives that he and his associates owned about 830,000 acres of land in Old Mexico, between 500,000 and 600,000 acres of which are level and irrigable by gravity from the main stream of the Colorado River (hearing before the Committee on Irrigation and Reclamation, House of Representatives, 68th Cong., 1st sess., H. R. 2903, pt. 7, p. 1563).

We think it will not be denied that it is shown by House Document 359, Seventy-first Congress, second session, being the report of the American section of the International Water Commission, United States and Mexico, which was transmitted to the Congress April 21, 1930, that Mexico by reason of the concession to the Mexican corporation which was formerly a subsidiary of the Chandler interests and which is now a subsidiary of the Imperial irrigation district of California, claimed a right to 3,600,000 acre-feet under the concession to that company, the *Compania de Tierras y Aguas de la Baja California*, as appears on page 7 of the report. We think it will not be denied that it is shown by that report on pages 161, 162, and 174 that the Colorado River Land Co., S. A., being the Chandler interests, at that time 1930 still owned 800,000 acres of land in the Colorado River delta in lower California, Old Mexico.

We think that ownership still prevailed at the time of the execution of the contract for the construction of the Imperial Dam and the All-American Canal, and that the excess capacity of the All-American Canal was designed for delivery of water to those lands in Mexico.

We have not been able to obtain documentary proof as to the present ownership of those lands, and have heard rumors, which may be true, that the California promoters have disposed of those lands, but whoever owns them they are still thirsty for the waters of the Colorado River and Imperial irrigation district delivers water of the Colorado River to them and has works constructed to increase that delivery and thereby obtain greater profit, and in the years 1943 and 1944 was trying to increase such delivery, and we have no doubt that until a limitation is put upon Mexican use that it will continue to try to increase that delivery.

We think it will not be denied that it is stated in that report that there are in Mexico 1,261,900 acres of land irrigable with the waters of the Colorado River (p. 91), some of which would require a pump lift of not to exceed 80 feet.

We think it will not be denied that there is contained in that report, pages 140 and 160, extracts from and references to the contract between the Mexican Government and the Mexican corporation formerly subsidiary to the Chandler interests and now subsidiary to and wholly owned by the Imperial irrigation district of California, which show the basis for the Mexican claim that under that contract Mexican lands are entitled to use 3,600,000 acre-feet of water per annum from the Alamo Canal.

We think it will not be denied that during the last 45 years, since the initiation of the development of the Imperial irrigation district of California and lands in Old Mexico adjacent thereto, which development was begun by the same interests, that there have been bickerings and disputes back and forth across the border between the users of water in Mexico and the Mexican Government on the one hand and users of water in California on the other hand. At one time Mexico levied a tax or customs duty upon the water flowing through Mexico through the Alamo Canal which was used upon the American side of the line in the Imperial Valley, and there has been a continuing series of disputes about charges to be made by the Imperial irrigation district and its subsidiary to users of water in Mexico for delivery of that water both through the Alamo Canal and its Mexican system and also since the construction of the All-American Canal as to additional charges to be made for deliveries it plans to make through the All-American Canal.

That condition is not good and will, if left unchecked, sooner or later involve the United States in serious disputes with the Government of Mexico.

We must assume that California's spokesmen will take the position that the Imperial irrigation district can deliver that water to Mexican lands and permit a civilization to be built upon its use in Mexico until we in the United States are able to put it to use in the United States, and that the United States, in reliance upon the Harmon opinion, will then withdraw that water from Mexico and destroy the civilization which in the meantime will be built upon its use.

With that contention we are wholly unable to agree, and we are not willing for any water in the United States to be subjected to that hazard.

The Harmon opinion has never been followed, so far as we know, by the United States. Colorado sought to rely upon it as applied to sovereign States in the Supreme Court of the United States and the doctrine was rejected.

However, it may be true that completely ignoring the principle of comity of nations, it was true when it was written that there was no legally enforceable right in the lower sovereignty, because there was no tribunal of competent jurisdiction capable of deciding the equities or enforcing its decision.

But in view of the fact it has never been followed and in view of the Inter-American Treaty of Arbitration it seems clear to us it has no weight in this matter.

For that reason we desire an over-all time limit to Mexico's claim of right. This requires the agreement of Mexico expressed in a treaty.

The question to be decided there is this: Is the treaty before you the best treaty it is possible to negotiate with Mexico, in that it limits Mexico's claim of right to the lowest possible quantity of water?

We believe that it is, and therefore favor ratification.

We submit, therefore, that the only American interests which would in any way gain any benefit by the failure of ratification of this treaty would be the Imperial irrigation district of California by reason of the fact that it would be permitted to continue and increase its deliveries of water for use upon Mexican lands and continue and increase its possible annual revenue derived from such deliveries and whatever interests would receive a financial return from the irrigation and development of additional lands in Mexico, and that to permit either of these things to continue would in the end in all probability deprive the United States and the people of the United States forever of the use of additional quantities of water.

As we see it, therefore, in urging the ratification of this treaty, we are endeavoring to save for our people and the people of the Colorado River Basin and of the United States the use of waters to the ultimate limit and we believe that by the ratification of this treaty there will be saved to the United States forever the greater part of, perhaps all of, and perhaps in excess of the use of 3,500,000 acre-feet of water per year for all time.

Based upon the experience of Arizona in the use of water, that would result in the establishment of homes and means of livelihood in a healthy, wholesome, and progressive area for more than a million American citizens forever, and in ordinary times would result in the return to the Treasury of the United States, in Federal taxes based upon pre-war rates, of \$20,000,000 a year.

All of the users of the water in California who desire to beneficially consume water within the boundaries of the State of California would share in these benefits and would also share in the loss of any water which might follow in case this treaty is not ratified.

The general aspects of the treaty and its effects upon the Nation as a whole we will leave to the State Department, concurring in what they say, and leave to the Six States Committee brief presentation of the Six States Committee answers, in which we concur, to the arguments which have been made by California. However, in this connection I would like to say that we in Arizona have very carefully considered this treaty and the protocol and we do not believe there is any merit whatsoever in the argument that the International Water and Boundary Commission is given any power to decide any domestic water question or the relative rights and priorities between the users of water within the United States, and that there is no merit whatsoever in the argument that it permits an invasion of States' rights. We believe it has no effect whatsoever adverse to local control of water resources within the United States, and that it has no effect whatever upon the determination of relative rights and priorities as between the several States, or as between the users within any portion of the river basins in the United States, and we see no way in which the questions pending between the United States and Mexico can be settled, except by treaty and no way that the provisions of the treaty can be administered in the best interests of the United States, as a whole and the

river basins in the United States in particular, except by an international commission divided into sections, an American section and a Mexican section; the American section's jurisdiction under this treaty is limited to works along the border through which water is delivered to Mexico, and works which are used exclusively for the discharge of treaty functions.

We in Arizona would also like to express our profound appreciation to the State Department and particularly to Mr. Hackworth, Dr. Timm, Mr. McGurk, Mr. Lawson, and Mr. Frank Clayton and their advisers for the careful, thoughtful, painstaking work they have done in connection with this treaty and to congratulate them upon the successful negotiations of a treaty which we believe to be very beneficial to the United States.

Senator McFARLAND. Mr. Chairman, will the State Department finish their testimony after Mr. Carson? I wondered when they were going to finish their testimony.

Mr. CARSON. That is all from me? You are finished with me?

The CHAIRMAN. I hope you are not leaving town.

Mr. CARSON. No; I will be here.

The CHAIRMAN. Senators, what is the view of the committee—very few of whom seem to be present—as to whether we should undertake to have a session in the morning—not in the afternoon—tomorrow or go over until Monday? I realize that Senators are under a good deal of pressure from other committees and correspondence, and things of that kind.

Senator TUNNELL. I think it ought to go over until Monday unless there are witnesses who are greatly inconvenienced.

The CHAIRMAN. The next on the list are the California witnesses. There is a rather large number of them. I do not know whether we shall be able to hear them all. I hope they will condense their testimony or get together and reduce it as much as possible. In view of the very large number of California witnesses and their desire not to go on until Monday—

Senator MURDOCK. Will they go on before the proponents of the treaty?

The CHAIRMAN. The committee decided the other day that it would hear the formal testimony of the Boundary Commission and the State Department and then go on with the testimony of the States.

Senator McFARLAND. The State Department has not finished its testimony.

The CHAIRMAN. I think there are one or two witnesses who care to be heard later on.

Senator McFARLAND. I do not care when they are heard—later on or now.

Senator TUNNELL. So far as I am concerned, I will accommodate myself to the convenience of the witnesses.

Senator MURDOCK. My State has just a few witnesses. Just because we are alphabetically away down on the list I object to holding these witnesses here while a great number of witnesses from another State are going to take a long time.

Senator O'MAHONEY. If we began at the bottom of the alphabet, I think we might move more expeditiously.

The CHAIRMAN. The Chair wants to accommodate Senators and witnesses. Witnesses are here from a number of States. I warned some of them not to come at once, but to wait until we notified them. I do not know how we are going to do this, except by going down the

list. However, the committee is in charge; I am not bossing this job. It is up to the committee.

Senator MURDOCK. I am not a member of the committee, but it seems to me the proper procedure would be to hear the proponents and then the opponents.

The CHAIRMAN. We have heard the proponents at some length. We have had the secretary of state, Mr. Lawson, and two engineers.

Senator MURDOCK. It seems to me that the States would be at a disadvantage unless we had all the evidence.

Senator DOWNEY. As you have already been advised for California, we are anxious to have and expect to have Governor Warren here. As we also advised you, he could not be here until next Monday or Tuesday. It was our desire to make him our opening witness, if that was possible. We would, of course, like to let our case go over until a week from Monday. If there are other witnesses here from other States who are anxious to get away, it would work out admirably for both groups.

But here is Senator Johnson, so I defer to him.

The CHAIRMAN. I agreed the other day that we would hear Governor Warren on the 7th of February. He has been ill. I do not agree with the idea that we ought to wait until he gets here and let him be the spear head. I am perfectly willing to hear him when he comes, but I have no authority to substitute my judgment for that of the committee. The committee voted for this program, and I shall have to consult the rest of the committee before I can change it.

Senator MILLIKIN. May I make one observation, Mr. Chairman?

The CHAIRMAN. Yes, Senator Millikin.

Senator MILLIKIN. Our own people from the upper basin States have relied upon the schedule as put out by this committee. They will not be here until next week. They have seen the long list of California witnesses and have made their own estimates as to how long it might take. So it would be impossible for our people to put on a case prior to, let us say, the middle or latter part of next week.

The CHAIRMAN. Very well.

Senator Austin, what do you say as to whether we should meet in the morning or on Monday?

Senator AUSTIN. I consult the chairman's program with respect to that and back it up. So far as my personal convenience goes, it would be served by going over until Monday.

The CHAIRMAN. All right. If that is the consensus of the committee, we will recess in a few minutes until next Monday. In the meantime, I hope those in charge of the witnesses and the program will get together and map out their program.

Mr. SWING. Mr. Chairman. I am very much concerned regarding trying to have orderly presentation of the California witnesses. I have had your cooperation in that matter. But until the State Department gives us some basis for this figure of 1,130,000 acre-feet return flow, it seems to me that our witnesses are in a blind. Would it not be possible to have one of the engineers referred to by Mr. Lowry complete the State Department's presentation of that very important but missing link?

The CHAIRMAN. Mr. Lowry, Mr. Lawson, and Mr. Ainsworth all testified about it, did they not?

Mr. SWING. No, Senator. Each one of them, as I recall—I will stand corrected by your statement—said that one of the succeeding witnesses would state what items made up that 1,130,000 acre-feet return flow and from what source it came. We are tremendously interested in having that.

The CHAIRMAN. The testimony was that that was based on the full utilization by the upper and lower basins.

Mr. SWING. I think that is a very important part of their testimony.

The CHAIRMAN. Is not that what they testified? I am not disputing with you, but I want to know if that is not what they testified.

Mr. SWING. I think they did, but that is a very general statement, and I think the home folks are entitled to know.

The CHAIRMAN. We want to be good to California, and I think that so far we have been pretty good to her. But with all respect to Mr. Swing, who is a very dear friend and a former Member of the House, who served with me in the House, but who was wiser than I and quit and went back to California to make money, and who enjoys a large and lucrative practice, I have to await and consult other members of the committee, because this was their vote. The committee voted formally to adopt this program.

Senator JOHNSON of California. What program?

The CHAIRMAN. As to when we would put on the witnesses. We are now down to California.

Senator JOHNSON of California. Are you going to call on California?

The CHAIRMAN. Not today. We are going to adjourn until Monday. At that time we will recognize Senator Johnson, the distinguished Senator from California. According to the schedule that I have been supplied with, the introductory remarks will be by Senator Hiram Johnson.

Senator JOHNSON of California. That is very sweet.

The CHAIRMAN. I am trying to be sweet to the Senator.

Senator JOHNSON of California. I appreciate your intention, but when you say you will recognize the distinguished Senator from California, I want to call your attention—

The CHAIRMAN. One of the two distinguished Senators.

Senator DOWNEY. Thank you.

Senator JOHNSON of California. If you will talk to both of us together, we will be completely in the hands of you gentlemen if you ask us to present the witnesses on the other side.

Now, are you not going to finish the testimony of the proponents of this treaty first?

The CHAIRMAN. I understand that the main case has already been made out. One or two State Department people indicate that they might testify later on, but they are not ready to go on now. I do not think we will have any difficulty about bringing out both sides of this matter, because it is being brought out pretty well as we go along.

Senator JOHNSON of California. You think that those gentlemen who are so bashful that they will not appear now will appear before us hereafter?

The CHAIRMAN. Oh, yes. Any of them who know anything about this and want to testify will be permitted to testify.

Senator McFARLAND. There may be some people from Arizona who are opposed to the treaty who may want to appear at a later date. They will be heard?

The CHAIRMAN. We want to accommodate those people. Most of these people are here at their own inconvenience and expense. We cannot hear them all at the same time.

Senator JOHNSON of California. Nobody expects that, and nobody expects to hear from all that galaxy that sit in front of us.

Senator MURDOCK. I have been advised, as far as the Utah witnesses are concerned, that the alphabetical order that has been arranged is agreeable to them. I was speaking out of turn before.

The CHAIRMAN. When you speak about the alphabetical order, you must remember that while there are 48 States in the Union, there are only 7 States which are primarily interested here. So the alphabetical arrangement does not sound as bad as it looks.

Very well, then. We will adjourn until Monday morning. At that time we will meet in the room immediately above this, which is room 457. This room is engaged by some other committee on Monday, so we will meet in room 457, just above this room, at 10:30 a. m.

(At 4:50 p. m. an adjournment was taken until Monday, January 29, 1945, at 10:30 a. m.)

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WATER TREATY WITH MEXICO

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1945

HEARINGS
BEFORE THE
COMMITTEE ON FOREIGN RELATIONS
UNITED STATES SENATE
SEVENTY-NINTH CONGRESS
FIRST SESSION
ON
TREATY WITH MEXICO RELATING TO THE
UTILIZATION OF THE WATERS
OF CERTAIN RIVERS

PART 2

JANUARY 29, 30, 31, FEBRUARY 1, 2, 3, 1945

Printed for the use of the Committee on Foreign Relations



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1945

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WATER TREATY WITH MEXICO

MONDAY, JANUARY 29, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in room 457, Senate Office Building, Senator Tom Connally, chairman, presiding.

Present: Senators Connally (chairman), George, Thomas of Utah, Green, Tunnell, Johnson of California, and Austin.

Also present: Senators McFarland, Murdock, and Downey.

The CHAIRMAN. Let the committee come to order.

Mr. Tipton, will you come around, please?

Mr. TIPTON. May I have permission, Mr. Chairman, to put up a map?

The CHAIRMAN. Oh, yes; put up the map.

I want to say to the committee that Mr. Tipton and Mr. Ryder, in answer to suggestions Saturday that there be developed a little more about the return flow, are prepared this morning to go on the stand on that particular aspect, but they are not prepared on the other features of the testimony. Is it agreeable to the members of the committee to restrict their examination to that particular aspect? [No response.] Without objection, that will be done.

STATEMENT OF R. J. TIPTON, CONSULTING ENGINEER, REPRESENTING THE SIX STATES COMMITTEE, DENVER, COLO.

Mr. TIPTON. Mr. Chairman and members of the committee, my name is R. J. Tipton, consulting engineer, with offices in Denver, Colo. When I put on my main testimony I will be representing the Six States Committee which is supporting the treaty.

As the chairman has said, I am appearing here this morning, at his request, to discuss return flow which will reach the river below Imperial Dam, about which some other witnesses have testified but did not go into detail.

The CHAIRMAN. This Six States Committee represents Colorado, Arizona, New Mexico, Texas, Utah, and Wyoming?

Mr. TIPTON. That is correct, sir.

I should like to say a few words concerning return flow before I discuss the matter in detail.

Return flow is the water that gets back to the stream after lands are irrigated. It consists of seepage returned to the stream, together with what we call regulation returns, or sometimes called wastes. Obviously it is impossible to divert to a system exactly the amount of water that

is required for irrigation purposes. Some water is required to carry the other water through to the last end of the canal system or lateral. That so-called carriage water, sometimes termed "waste," returns to the stream and is available for reuse below.

The other kind of water that returns to the stream is water that percolates into the ground, carrying the water past the root zone of the plants, which finally returns to the stream. That class of water is not a happenstance. A certain amount of water must be caused to return to the stream in order to keep what we call the salt balance. Any water used for irrigation purposes contains a certain amount of minerals as dissolved salts. In order that those salts shall not accumulate in the root zone and become detrimental to plant growth, there must be sufficient water pass through the ground and come back to the stream to bring those salts back to the stream. Otherwise the lands will become alkaline and unfit for irrigation.

Senator McFARLAND. I agree with your statement except in one particular. The salts must be washed on out, but they may percolate and become a part of an underground percolation which goes off in another direction, does it not?

Mr. TIPTON. It does not matter how they are disposed of.

Senator McFARLAND. Just so they are taken off?

Mr. TIPTON. If fortunately there should be that situation, that would accomplish the purpose. In other words, there must be water flowing through the soil and getting out of the area by some means in order to take the salt out and prevent the lands from deteriorating.

Senator McFARLAND. That is right.

Mr. TIPTON. Now, with respect to this specific problem, this quality of water is quite important—

Senator McFARLAND. I think it might be helpful if you would state why that is necessary. That would not be necessary if the water, when it was used in the first instance, did not have the salt?

Mr. TIPTON. No; it would be necessary ultimately because, as the water passes through the soil the water picks up salts, and there is also a change in the character of the salt at times, and the water takes that down, and if it is reused it will accumulate further salts.

Senator McFARLAND. That is particularly true because nearly all water has some salt content?

Mr. TIPTON. Yes.

Senator McFARLAND. I mean, all of irrigation water in the West.

Mr. TIPTON. Yes. In nature it is absolutely impossible to find water which does not have dissolved solids. Stated in another way and as simply as it can be stated, in a large drainage basin if there is a certain amount of water produced, several million acre-feet, that several million acre-feet of water contains many millions of tons of salts, and as that water is used and reused and reused the quantity of water becomes less, but the total amount of salt dissolved in that water must be the same if the lands that are irrigated by that water are going to remain in good condition. So there must pass out at the lower end of the basin the total amount of salt that was originally dissolved in that very large quantity of water. So the salt content of the water becomes progressively more concentrated.

Senator McFARLAND. So, generally speaking, the higher the salt content in the water the more water you have to use for irrigation?

Mr. TIPTON. That is correct, sir.

Senator McFARLAND. Pardon me for asking these questions at this time.

Mr. TIPTON. I think it is quite important to understand that phase.

Now, with respect to this specific problem, the amount of water that will return to the stream below Imperial Dam from uses in the United States depends to a major degree on where Arizona will use its water, the water to which it is entitled, from the main stream of the Colorado River.

Those of us who have been studying this problem for many years have been somewhat at a loss, because we could not make assumptions as to where Arizona might use this water.

Section 15 of the Boulder Canyon Project Act charged the Department of the Interior and the Bureau of Reclamation with making a study of the Colorado River Basin with the idea that ultimately a report would be prepared which would outline a comprehensive development of the river for all useful purposes. We therefore have had to rely upon the engineers of the United States Bureau of Reclamation to indicate where Arizona might use the major portion of the water from the Colorado River to which it is entitled.

We therefore have at various times consulted the engineers of the Bureau of Reclamation. A year ago when I was studying this problem I discussed it with Mr. Debler, who at that time was head of the Planning Section of the Bureau of Reclamation.

As testified by Mr. Lowry, last month there was a conference of engineers in El Paso. As members of that conference there were Mr. Page, who was formerly Commissioner of the Bureau of Reclamation, and Mr. Riter, who has taken Mr. Debler's place as Director of Planning.

It was necessary for the Bureau of Reclamation men to participate because they represent the agency that is making the investigation of the Colorado River Basin.

I wish to call attention to the map that is on the easel. This is a map of the lower Colorado River Basin. The full black line delineates the outer boundaries of the drainage area. The course of the Colorado River may be followed from a point near the top of the map, at Lee Ferry, which is the division point between the upper basin of the Colorado River and the lower basin. From that point the river flows in a southerly direction, then turns westerly and passes through Lake Mead, which is shown in blue on this map.

The CHAIRMAN. Lake Mead is at Boulder Dam, is it not?

Mr. TIPTON. Yes, sir. This is the reservoir formed by Boulder Dam. The river then turns southward and continues in a southerly direction, crossing the boundary at a point near the lower portion of the map, and finally flows into the Gulf of Lower California.

The purpose of showing this map at this time is to indicate the various possibilities that exist in Arizona for the use of the Colorado River water.

The present irrigated areas in the basin are shown by the light green area. The irrigable areas are indicated by the yellow areas. All arable areas are not shown. There is not sufficient water, if all projects investigated were economically feasible, to irrigate all arable areas.

There are two major possibilities for the use of main stream water in Arizona. One is along the lower reaches of the Gila, on an area called the Gila project. The Gila River drainage basin, which comprises most of the State of Arizona, is indicated at the lower portion of the map.

This large irrigated area shown by the green color in the south central portion of Arizona, is in the Gila River Basin; most of the area being in the Salt River Basin, which is a tributary of the Gila River. The Gila River flows through Arizona and joins the main stream a short distance below the Imperial Dam, which is the last diversion in the United States. There is a small amount of water still being diverted at Laguna Dam, which is below Imperial Dam, but Laguna Dam is also above the mouth of the Gila River, so any water coming to the main stream from the Gila is not subject to redirection in the United States except by pumping.

Senator DOWNEY. May I ask how far north of the boundary line is the mouth of the Gila, approximately?

Mr. TIPTON. A matter of just a few miles above the upper boundary. The river swings westward opposite the north boundary, and the Gila comes straight into the river where it swings westward.

The large yellow area shown at the mouth of the Gila is a potentially irrigable area and, as I have said, it lies within the already authorized Gila project. As I remember there are 645,000 acres of area in the Gila project of which about 500,000 acres are irrigable.

Mr. CHAIRMAN.

Mr. Chairman, I am giving some quantities from memory. I did not know I was going on, until yesterday; and if I am incorrect in some of these quantities I shall later correct the record.

The CHAIRMAN. Very well.

Mr. TIPTON. But I think, for the purpose, that is near enough. There are about 500,000 irrigable acres in this large yellow area [indicating]. All of that area must be irrigated by pumping. It is contemplated to have two major pump lifts and one minor pump lift from the second major lift. There have been already constructed some of the works required to irrigate a portion of the Gila project. The main canal has been constructed to the first unit of what we might call the lower unit, which involves a nominal acreage, and the pumps have been installed at that point and a nominal amount of water is being used.

Senator McFARLAND. How many acres will there be in the lower project?

Mr. TIPTON. A matter of 30,000 to 50,000 acres. That is the lower unit of the first unit. In the first unit proper there are about 160,000 acres.

Senator McFARLAND. Not all of that 160,000 acres is to be irrigated.

Mr. TIPTON. That is the irrigable area. There are about 160,000 irrigable acres in the first unit of the Gila project. The Gila project is one place where Arizona may utilize much of its portion of the main stream water of the Colorado River. If the major portion of Arizona's share of the water were used on the Gila project there would be a very substantial return of water directly to the Gila River which would not be subject to reuse within the Gila project without construction of additional works; and the amount of reuse would be nominal, because it would be confined to the mesa portion of the project. Some of the

water, however, would be subject to reuse by the All-American Canal, by pumping.

Senator MURDOCK. What is the average duty of water on the project about which you are now speaking?

Mr. TIPTON. Again we have to rely upon the Bureau of Reclamation. I presume you refer to diversion. The amount of water that must be diverted in terms of acre-feet per acre varies widely with the character of the land; and the Bureau of Reclamation estimates that there must be diverted to the Gila project 6 acre-feet per acre at least. As a measure of that, there is a small area at present being irrigated as a part of the Yuma project on the Yuma Mesa. Water must be pumped to that area. The diversion duty there I believe runs as high as 9 acre-feet per acre. I may be mistaken in that, but it is well over 6 acre-feet per acre, even though the water must be pumped, because there is considerable loss, and the water comes back rapidly to the stream.

In central Arizona, where on the map the large green areas are shown, there has been an overdevelopment. There is not sufficient water successfully to irrigate the lands that are attempted to be irrigated. There is a great need for additional water supply in that area.

The CHAIRMAN. What area is that?

Mr. TIPTON. In central Arizona, the Salt River Valley, particularly, and also in the Gila Valley proper where the San Carlos project is located.

Senator MURDOCK. You say that the projects that you refer to now, in central Arizona, have been overdeveloped, or, in other words, there is now a shortage of water for the lands which were contemplated to be irrigated by those projects. Is that your meaning?

Mr. TIPTON. No, sir; not the lands that were originally contemplated to be irrigated by the projects. There has been an expansion; there have been other lands come in. I will mention that later in my testimony.

Senator MCFARLAND. For instance, the original plan for the Salt River Project development was 100,000 acres, was it not?

Mr. TIPTON. Yes, sir.

Senator MCFARLAND. And that has been expanded until the Salt River Valley water users now take in, I believe, 242,000 acres; and there are various other projects, Senator Murdock, around the Salt River Valley project.

Senator MURDOCK. It seems to me that what the witness is now telling us is very important to this discussion. Has that expansion been as the result of recommendations of the engineers of the Bureau of Reclamation?

Mr. TIPTON. I could not answer that, because I do not know.

Senator MURDOCK. You say you do not know?

Mr. TIPTON. No, sir; I do not.

Senator MURDOCK. Do you know whether or not the expansion has been on the recommendation of engineers?

Mr. TIPTON. I could not answer that question. I will discuss that subject in more detail. What I am mentioning here is quite important so far as this question is concerned, but I think it will be better understood if I keep the continuity right. But, as Senator McFarland says, in the Salt River project itself there are about 245,000 acres

irrigated. There are being irrigated from the waters of the Salt River, plus a minor amount from the Agua Fria, over 300,000 acres. But I will go into that in more detail shortly.

Senator MURDOCK. I think this is of the utmost importance, because a survey of the entire reclamation system of western United States made a few years ago indicates that our engineers have been rather optimistic in anticipating how much land would be irrigated by a certain reservoir. With that in mind it seems to me that we must be very careful in estimating what waters of the Colorado are needed in the United States before we become too generous to another country, like Mexico.

Mr. TIPTON. I agree with you, Senator. Conversely we must look to the danger of Mexico's increasing her claims so that we would be in a worse condition if we find that some engineers made a mistake at some time in the future. I am in wholehearted agreement that the plan for the future development of the Colorado River Basin should be absolutely on a sound basis. I think involved in that, of course, is the Mexican question, which I am not prepared to go into at this moment. I will go into that very thoroughly later during these hearings.

Senator MCFARLAND. Most of the expansion of the Salt River Valley project was made after it was turned over to the Salt River Valley water users?

Mr. TIPTON. Yes.

Senator MCFARLAND. So that we cannot lay all the blame on the Interior Department. They may have consented to it, but they are not entirely to blame.

Senator MURDOCK. I do not want it understood that I am laying any blame at all.

Senator MCFARLAND. I understood that, Senator.

Mr. TIPTON. As a member of the engineering profession I will admit that engineers have made mistakes many times. One type of mistake that has been made in the West has been recommendations to irrigate areas larger than available water supplies would permit. Some of those errors were made on account of lack of stream flow records. Most overexpansion, however, has resulted from the lack of control of development under our western water laws. In most States under such laws no one can be denied the right to appropriate the waters of a stream; and the only control is the administration of the use of the water so appropriated by the system of priorities. So that we have many, many systems that have only flood rights on our streams, which is due to no one's fault.

If Arizona were to choose to make only a nominal development of the Gila project near the mouth of the Gila and should choose to take the major portion of her share of the waters of the main stream of the Colorado River to central Arizona for supplemental purposes, and to irrigate additional areas, then that would have a large effect upon the amount of water which would return to the stream below Imperial Dam.

Senator DOWNEY. What do you mean by nominal as you have used it there?

Mr. TIPTON. I will indicate now three assumptions that were made and will indicate to the committee the estimates of return flow that were made on those three assumptions.

As to where Arizona uses its water is a matter which is entirely under the control of Arizona. So that all we can do is to make assumptions as between certain limits. That is all that the Bureau of Reclamation can do.

One assumption was that Arizona would choose to use in central Arizona the greatest practicable amount of main-stream water.

The CHAIRMAN. How was it to get up there? Was it to be pumped?

Mr. TIPTON. It could be brought in in several ways, Senator.

The CHAIRMAN. No; you started to say something about the Gila River.

Mr. TIPTON. That would require pumping there. That water would not be applied to central Arizona, Senator; that would be applied to the lands nearer the mouth of the Gila. The Gila project is near the mouth of the Gila and central Arizona, as here used, is the area around Phoenix. Water for that area could be pumped from Parker Dam, shown on the map, and carried through a long canal system. Water could be diverted by gravity from a proposed reservoir on the stream, the dam of which would be immediately above the backwater of Lake Mead. Water could be diverted from that reservoir by gravity through a long tunnel and would enter the same canal to supply central Arizona that would be used if the water were pumped from Parker Dam or Lake Havasu, which is the reservoir created by Parker Dam. Water could be diverted to central Arizona from Marble Gorge Reservoir, the site of which is above the Grand Canyon, through a long tunnel, without the use of any canals whatsoever. The tunnel would discharge into one of the main tributaries of the Salt River which would carry the water down to the present system of canals that serve the Salt River Valley.

Senator MURDOCK. Will you give us the approximate mileage of what you call the long tunnel?

Mr. TIPTON. One is 80 miles long. I do not know what the length of the other one is.

The CHAIRMAN. It would be pretty expensive to build that tunnel, would it not?

Mr. TIPTON. I should think so.

One assumption—getting back to Senator Downey's question—which envisioned the use by Arizona of the major portion of its main stream water in central Arizona, assumed only 80,000 acres irrigated in the Gila project. That is this lower project near the mouth of the Gila.

Senator MURDOCK. When you mention the Gila project, is it not a fact that the water that should be used on the Gila project is not water from the Gila River, but from the main stream of the Colorado?

Mr. TIPTON. That is correct, sir. We are dealing with the same block of water and we are asking ourselves, Will it be used on the Gila project or will it be used in central Arizona? In this particular assumption we are saying to ourselves that there will be only 80,000 acres irrigated by the Gila project, which would require a diversion of 480,000 acre-feet. We are assuming under that condition that in the Mojave Valley, which is partly in Arizona, there would be no water used. That is a valley along the main stream. The potential irrigation there is very nominal, anyway. We are also assuming that

on the Parker Indian project, which is a constructed project in Arizona, taking water out of the stream a short distance below Parker Dam, there would be irrigated only 60,000 acres. I think the project can serve some hundred thousand acres of land or possibly more.

We are also assuming under that condition that there would be the minimum possible amount of water used on the Yuma project under the assumption that the Yuma project canals would be lined. Under that condition we estimate there would return to the stream below Imperial Dam about 806,000 acre-feet of water. That does not include desilting water.

Senator DOWNEY. That was on the basis of the testimony that there would be only 80,000 acres irrigated down in the lower Gila Valley?

Mr. TIPTON. Yes, sir; and 60,000 on the Indian project.

Senator McFARLAND. Now, will you break that down?

Mr. TIPTON. Yes, sir. This is the break-down of the 806,000 acre-feet.

I want to indicate to the committee that this was a study that was made last spring, and it has been some time since I have reviewed it; so, if there are any detailed questions you will have to bear with me while I refresh my memory.

The study that was made last month was on a somewhat different assumption.

The break-down of the return flow is as follows: From north Gila Valley—north Gila Valley is an area which is at present irrigated; it has been irrigated for many years in Arizona and is immediately below the canal line which has been constructed to serve the Gila project—

Senator McFARLAND. The return flow from that project, as I understand you, cannot be reused?

Mr. TIPTON. By direct diversion. It could be used by pumping into the All-American Canal.

Senator McFARLAND. How much do you estimate from that?

Mr. TIPTON. Twenty thousand acre-feet. From the Yuma project—understand, this is cutting the diversion to the limit and only letting sufficient water return to take care of the salt balance which I mentioned a while ago—120,000 acre-feet.

Senator McFARLAND. That is the area which you describe down there on the mesa?

Mr. TIPTON. No; it is the existing Yuma project.

Senator McFARLAND. Oh, the existing Yuma project?

Mr. TIPTON. Yes, sir. I should make that plain to the committee. There is at present irrigated below Imperial Dam an area of land which comprises some 65,000 acres. Most of the land lies in Arizona. Some of it lies in California. Diversions were made in the Laguna Dam, which is immediately below the Imperial Dam, on the California side. Water was carried to the California lands and then carried to the Arizona lands by means of a siphon under the river. Those lands will now be served through the All-American Canal, which will release water at the so-called Siphon Drop.

Senator McFARLAND. Those are lands which are now being irrigated?

Mr. TIPTON. Yes, sir.

Senator McFARLAND. And those are also lands upon which return water cannot be used except by pumping

Mr. TIPTON. Well, it would be very difficult to reuse returns from the Yuma project in the United States.

Senator McFARLAND. Yes; even by pumping.

Mr. TIPTON. That is correct.

Senator McFARLAND. All right.

Mr. TIPTON. Incidentally, at the present time some of those returns are being used in Mexico by pumping.

Senator McFARLAND. So, just summing up, at the present time you have 140,000 acre-feet of returned water according to your testimony, which cannot be used except by pumping. Let me ask you this before we go any further. What percentage of water do you estimate the return flow to be? I mean what percentage of the water that is used do you estimate is returned?

Mr. TIPTON. We assume that there must be 2 acre-feet per acre returned in order to maintain the salt balance on the Yuma area.

Senator McFARLAND. Now, that is assuming that how much water is used?

Mr. TIPTON. Well, the consumptive use there is about 3.5 acre-feet per acre—3 to 3½. That would mean a diversion of 5 acre-feet—5 to 5.5 acre-feet per acre. Senator, just one correction. You stated that this represented the present return. Actually the present return is very much greater than this, because the diversions are greater. The actual return at the present time from the Yuma project is at least 200,000 acre-feet and possibly more. The 120,000 acre-feet estimated future return is made under the assumption that the diversions by the Yuma project would be curtailed to the absolute minimum required to permit the proper consumptive use and to maintain the salt balance.

Senator McFARLAND. Well, what I really meant, this is upon the land already being irrigated?

Mr. TIPTON. Yes, sir; that is correct, sir.

Senator McFARLAND. Now, in other words, in answer to my question, you estimate that 33⅓ percent of the water which is actually diverted on the land will be return flow?

Mr. TIPTON. That is roughly correct; yes, sir. Understand that the criterion of the return flow—I mean the required return flow—is salt, the amount required to maintain the salt balance.

Senator DOWNEY. Mr. Tipton, may I ask, Is that water as it would return usable water, or would it be too alkaline?

Mr. TIPTON. At the present time the water that is returning from the Yuma project and being used by Mexico, I believe, Senator, has some 1,500 parts of dissolved solids per 1,000,000. I am not quite sure of that figure, but I think that is about what it is.

Senator DOWNEY. One thousand five hundred?

Mr. TIPTON. Yes, sir. It is being used in Sonora at the present time, but I do not know what the quality of the return itself would be, because mixed with the return proper there are the so-called regulation returns. In other words, waste water which is carried through the canal system, of the same quality as the water which is originally diverted from the stream.

Senator DOWNEY. Then let me ask you this: Would the character or quality of that water as you would expect it to be returned be what you would characterize as "usable"?

Mr. TIPTON. From this area, I think so, Senator.

Senator McFARLAND. What is the percentage of the salt content of the water that is being diverted at the present time for use upon this land?

Mr. TIPTON. I do not believe I can answer that at the moment. I think it is around 500 to 600 parts per million, but I am not sure about that, Senator.

Senator McFARLAND. Well, that is very good water?

Mr. TIPTON. Yes; that is very good water.

Now, continuing with my answer, which is directed at a question by Senator McFarland, as to the break-down of the 806,000 acre-feet. The first item is the North Gila Valley, 20,000 acre-feet; the second item was Yuma project, 120,000 acre-feet; the third item, the Gila project. It is estimated the return from the Gila project with 80,000 acres irrigated would be 240,000 acre-feet. That is 3 acre-feet per acre.

Senator McFARLAND. Now, how many acres is that? How many acres do you propose to irrigate there?

Mr. TIPTON. That contemplated the irrigation of 80,000 acres, sir.

Senator McFARLAND. 80,000 acres?

Mr. TIPTON. Yes, sir.

Senator McFARLAND. And you are going to have annually from the irrigation of 80,000 acres, 240,000 acre-feet of return flow?

Mr. TIPTON. That is correct, sir.

Senator McFARLAND. That is a pretty high return flow, is it not?

Mr. TIPTON. A substantial quantity of water is required to irrigate that land. As I mentioned before, a part of that area at present is being irrigated as a part of the Yuma project—by pumping, understand, and about 9 acre-feet per acre is being applied. The project is consuming about 3 to 3.5 acre-feet per acre, so there are about 6 acre-feet per acre returning.

Senator McFARLAND. And what is the salt content, though, of that water that they are pumping?

Mr. TIPTON. If I was correct in my former statement, 400 or 500 parts per million, but here the return is not entirely for salt balance. It is due to the physical characteristics of the soils to which the waters are applied. The greater the porosity, the greater the amount of water that must be applied for successful irrigation.

Senator McFARLAND. This water that you would be using on this land, the new water, which would only be about 500 or 600 parts, it would not take nearly so much of that water, would it, as far as the salt content is concerned?

Mr. TIPTON. No; that is correct, sir. It would not require a return of 3 acre-feet per acre to maintain the salt balance.

May I read you at this moment the comment that Mr. Debler made at the time he was the Director of Project Planning for the Bureau of Reclamation. This is a memorandum to me, dated December 2, 1942, commenting on some estimates that I had made in connection with the returns from this particular area.

Gila project: While diversion of water for the Gila project has in your memorandum been assumed at 4 acre-feet per acre, it now appears very likely that the diversion demand for the first unit will be in the neighborhood of 6 acre-feet per acre on account of the sandy nature of a very large part of the land. It is anticipated that diversion for the balance of the project will probably be at the rate of about 5 acre-feet per acre. In my opinion return flow from the latter units of the

project will be recovered to an extent such that consumptive use on that portion of the project will be around 3 acre-feet per acre.

In the case of the first unit, however, the return will not be recoverable for use within the United States excepting only as a small part thereof may become available for the future uses for Yuma Valley, and consequently it will probably be in order to make some revisions in the estimated areas to be developed or in the amounts of water to be utilized.

Now, that is my authority for the diversion demand, and Mr. Riter, who will follow me, is with the Bureau of Reclamation and will support this. In other words, I felt as you did, Senator, particularly from the fact that the water must be pumped, that the diversion would be held at as low a quantity as possible. However, the Bureau of Reclamation engineers are intimately familiar with the area, they have had long experience in matters of this kind and I am relying on their conclusion.

Senator McFARLAND. Now, as to the 240,000 acre-feet of water returned, that will be pretty good water, will it not?

Mr. TIPTON. That is correct.

Senator McFARLAND. That is, that would be reusable, except for the fact that it goes into the stream too low to be used?

Mr. TIPTON. That is correct, sir. Some of it still could be pumped to the All-American Canal.

The CHAIRMAN. Is that all, Mr. Tipton? Does that conclude your testimony?

Mr. TIPTON. No, sir.

Senator McFARLAND. Oh, no! He has just started.

The CHAIRMAN. All right. Go ahead. You spoke about Mr. Riter's following you.

Mr. TIPTON. Yes, sir.

To clear up just one question, I have been explaining one assumed condition of development in Arizona, which is not the one which formed the basis of Mr. Lowry's testimony.

The CHAIRMAN. All right. Go ahead on your return flow.

Mr. TIPTON. Yes, sir. Now, getting back to Senator McFarland's question again, the next item, the estimated return from the Phoenix area, is 406,000 acre-feet. Adding those up makes the 806,000 acre-feet of return flow. That does not include desilting water.

Senator McFARLAND. 406,000 acre-feet?

Mr. TIPTON. Yes, sir.

Senator McFARLAND. That is the one I may be wanting to quarrel with you on.

Mr. TIPTON. Now, before you start quarreling, I will make my explanation; then, if we have any quarrel—

Senator McFARLAND. You in a way cut me out on this 380,000, because you have not got a chance of reusing it.

Mr. TIPTON. There are those two differences in any stream system—opportunity for reuse from a physical standpoint and the character of water from a quality standpoint. The water I am talking about now, except from the Phoenix area, would be good water. You must understand, Senator, that none of the water that the lower basin will get from the upper basin under ultimate conditions will be virgin water. It will have been used and reused many times before the lower basin gets it. The lower basin will have the opportunity to use it. It will still probably be of a quality which will permit its use.

Senator McFARLAND. Now, what you mean there, as I understand it, is that Senator Murdock is going to give us some. After he gets through using this water, it will not be as good as it is now?

Mr. TIPTON. That is correct. We cannot help it, Senator.

Senator McFARLAND. Well, I am not saying; but I would not try, if I could. I am not trying to prevent another State from development.

Senator MURDOCK. I think anything that flows down from Utah will add to Arizona.

Senator McFARLAND. We will take all you will let flow down, Senator. I will not quarrel with you. If you will just let it flow down, that is all we want.

Senator DOWNEY. Mr. Tipton, is there any statement in the treaty as to the quality of water that must be delivered by the United States to Mexico?

Mr. TIPTON. We are protected on the quality, sir.

Senator DOWNEY. That is, you would mean by that statement that we could perform the terms of our treaty with Mexico by delivering to her water that would not be usable?

Mr. TIPTON. Yes, sir.

Senator DOWNEY. And you think that some court in the future would uphold that kind of interpretation, that we could satisfy in whole or in part our obligation to Mexico under this treaty of delivering 1,500,000 acre-feet of water, even though some or all of it were not usable for irrigation purposes?

Mr. TIPTON. That is my interpretation of the treaty, sir. During the negotiations, that question was argued strenuously. Memoranda passed back and forth during negotiations indicate what the intent was. Language was placed in the treaty to cover that situation and to cover only that situation.

Senator McFARLAND. As far as that goes, right there, Mr. Tipton, that 380,000 acre-feet, as I have added it up, here, which you estimate now, that is going to be water of a pretty good quality?

Mr. TIPTON. Yes, sir; that is correct.

Senator McFARLAND. It is going to be water of which no one could complain, if they could just get it?

Mr. TIPTON. I would like to continue on my answer. Suppose there were sufficient water coming from Central Arizona to deteriorate materially the other water; there was language put in the treaty with the knowledge and consent of Mexico specifically to cover that. The treaty provides that the waters shall be allocated from any source whatsoever. I am paraphrasing. You will remember the language. The other is, that Mexico shall have a right to use no more than 1,500,000 acre-feet "for any purpose whatsoever." Now, that "any purpose whatsoever" has material significance. Under this language we believe that Mexico could not call upon the United States for any more water than 1,500,000 acre-feet for dilution purposes. She has renounced all claim to any water, except 1,500,000 acre-feet, for any purpose whatsoever.

Another item is covered by the language. It is possible, and a certainty for many years, that fairly substantial quantities of water must be passed down the stream to keep the stream bed in a healthful condition, to carry off silt and sand. Under the ultimate conditions we are attempting to visualize here, that might not be true, but if it be-

comes necessary for Mexico to use water for desilting purposes, it must come out of the 1,500,000 acre-feet.

Senator McFARLAND. Now, "any purpose whatsoever," Mr. Tipton, would cover a situation like this, would it not—and it is very valuable for this reason—that down in that Lower Yuma country if we are not careful, why, that land may become water-logged by the irrigation of all this water on these lands, which will have a return flow down toward that country.

Mr. TIPTON. Yes, sir.

Senator McFARLAND. We may have to pump water, may we not, in order to keep it from water-logging?

Mr. TIPTON. You are pumping water now.

Senator McFARLAND. We are pumping it now?

Mr. TIPTON. Yes, sir.

Senator McFARLAND. But we may have to pump it a whole lot more?

Mr. TIPTON. I am not so sure of that, Senator. I think you are maintaining your salt balance—yes. You won't have to pump more, because you are pumping more than sufficient to maintain the salt balance. We assume under the so-called ultimate conditions it will only require 120,000 acre-feet to maintain the salt balance, so I do not believe that your drainage problem would be any more acute, except to the extent that the irrigation of the mesa lands under the Gila project might accentuate the need for drainage.

Senator McFARLAND. Well, I did not want to go into that question right now, but what I was getting at is that under that provision of the treaty Mexico could not complain if we did pump water and put it in the river, and they had to use it?

Mr. TIPTON. No, sir.

Senator McFARLAND. It would still be water?

Mr. TIPTON. That is correct.

Senator McFARLAND. And I spent about 3 months in Maricopa County, trying a lawsuit, once, where the people did complain about having to use pumped water instead of the river water.

Mr. TIPTON. Yes, sir. I do not know whether you were the judge in that case or not.

Senator McFARLAND. I was the judge.

Mr. TIPTON. It was a good decision, from principles of which Mexico might invoke assistance at some future date, if it were not for the treaty.

Senator DOWNEY. Mr. Chairman, this question, I think, is of so much importance I would like to pursue it a little further, please. Mr. Tipton, you are then stating to the committee that in your opinion if the United States wanted to use and reuse this water to such an extent that 500,000 or 750,000 acre-feet of this water would not be of any value for irrigation purposes as delivered under the schedules of Mexico, we would have a right to do it?

Mr. TIPTON. Yes, sir.

Senator DOWNEY. I did not hear you.

Mr. TIPTON. Yes, sir; I do state to the committee, that that is my opinion. It is not my own view, Senator, that the amount of return flow that Mexico will be receiving will be of unusable quality. As Senator McFarland has said two or three times here, there will be

some of this water that will be of fairly good quality, and it will dilute the other water which will come from central Arizona. I think that I should go into the central Arizona situation in order to make that a little plainer, because that water will not be of good quality.

Senator DOWNEY. Yes, but, Mr. Tipton, first let us just settle what we think is the legal right of Mexico under the treaty.

Mr. TIPTON. Yes, sir.

Senator DOWNEY. And you are very positive that the treaty does not give any guaranty to Mexico that the water we deliver her shall be of a quality that she shall use?

Mr. TIPTON. Yes, sir. Understand, I am not an attorney. I cannot appraise the legal rights of Mexico under the treaty. However, I did have the privilege of participating very actively in the negotiations, and I can say of my own knowledge that this question was a major question, and that Mexico understands very thoroughly what the language of the treaty means.

Senator DOWNEY. Now, Mr. Tipton, there is no such phrase as this: That Mexico agrees to take the 1,500,000 acre-feet regardless of its quality or usability?

Mr. TIPTON. No, sir; certainly not.

Senator DOWNEY. The language you refer to, as I understand you, is this: That Mexico shall be guaranteed the right to 1,500,000 acre-feet of water from any and all sources; is that right?

Mr. TIPTON. That is part of the language.

Senator DOWNEY. That is the language you refer to?

Mr. TIPTON. Yes; that is correct.

Senator DOWNEY. Is not that a clause favoring Mexico and merely providing that her lien or right to 1,500,000 acre-feet attaches to all the waters in the United States?

Mr. TIPTON. No, sir. As I say, I participated in the negotiations, and I know the reason for that language. As to subsequent interpretations, I do not know. But I know the reason for the language.

Then, do not forget the very significant limitation: "for any purpose whatsoever."

Senator DOWNEY. Do you have the treaty there?

Mr. TIPTON. Yes, sir.

Senator DOWNEY. Read that last language that you think obligates Mexico to take water even though it is not of usable quality.

Mr. TIPTON. It is article 10, subparagraph (b), on page 14:

Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system, for any purpose whatsoever, in excess of 1,500,000 acre-feet annually.

Senator DOWNEY. But, Mr. Tipton, that does not answer the question as to whether that 1,500,000 acre-feet is to be usable as first-class water. That begs the whole question.

Mr. TIPTON. No, it does not, Senator. If Mexico required an additional amount of fresh water to dilute this, to make it usable, she could not call upon the United States to deliver that fresh water, because she has limited her right to 1,500,000 acre-feet for any purpose whatsoever.

Senator DOWNEY. Very well. I have no further questions.

The CHAIRMAN. Go ahead, Mr. Tipton.

Mr. TIPTON. Getting to the central Arizona return flow——

Senator McFARLAND. I am going to let you complete your explanation of that before I ask any questions.

Mr. TIPTON. Thank you, Senator.

The statement has been made that there is not one drop of return flow returning from central Arizona at the present time. That is a fact. There is no return flow from central Arizona getting beyond what we call the Gillespie Dam, and there is very little return flow getting down to Gillespie Dam. How can anyone conceive under that condition that if any water is brought into the area now, and there is much more land than there is available water supply, there can be from that water any return to the main stream? That is the question.

As I have said, central Arizona is overdeveloped. The Salt River project along about—and you can correct me, Senator, if I am wrong on dates. I think along about 1928, possibly, a little before—maybe 1924 or 1925—the Salt River area began to become seeped. The water table rose. Substantial areas of land began to deteriorate to the point where it appeared that they might have to go out of cultivation.

Senator McFARLAND. I do not think you could pick an exact date on that.

Mr. TIPTON. It was progressive.

Senator McFARLAND. Progressive.

Mr. TIPTON. It appeared that the most practical means of taking care of the situation was by pumping. A number of pumps were installed by the Salt River Water Users Association. There was an immediate response to the pumping. The water table began to recede. The danger from the seeped condition began to disappear. There were being pumped about 150,000 acre-feet of water.

Immediately there came into being a new irrigated area west of the Agua Fria, the Agua Fria being a river that runs along the west side of the Salt River area. This new area was organized under the Arizona laws, was called the Roosevelt irrigation district, and has some 35,000 acres in it. That district contracted with the Salt River Association to take over the pumps, maintain them, and reuse the pumped water, so that that water which otherwise would have been return flow is now being reused in Arizona. Pumping is now taking place on the Roosevelt irrigation district area, and the return flow is being reused a second time in that area.

Out of this whole situation litigation started. One of the areas which had one of the oldest water rights in the area, the Buckeye irrigation district, was not only being deprived of its water, but the quality had been materially deteriorated. That situation has now been taken care of by mediation proceedings, whereby this old district will be furnished some fresh water, so-called, by the Salt River Water Users Association.

The point I want to make—and I want to make it strong—is that there is trouble in central Arizona by this use and reuse. The water which has been diverted a short distance above the troubled area, at the mouth of the Salt River, is virgin water. I want you to get that: Virgin water; nobody has used it before; it is water right out of the mountains. But even the one or two times that it has been reused has deteriorated the quality of it until the salt concentration is 3,000 parts per million at the Buckeye heading. That condition cannot go

on forever. It would be the same as if a person continued to eat and did not eliminate; he would finally die. Some of these areas are going to die. The Salt River area began to return water to the stream by pumping. Somebody else took that return, is using it, is pumping it onto his own area, and is giving some of it to the lower areas. The water is getting to be of worse and worse quality, so somebody finally must disgorge to return the salts to the stream, and that will constitute the return flow that normally would come from that area. Such returns must eventually come from that area, and in the absence of bringing in new water, it will come by virtue of abandonment of lands which cannot take the water of poorer quality.

Let us go to this new water we are bringing into the area and see what we have as compared with that situation.

Senator McFARLAND. I want to quarrel with you a little on that, but I am going to let you complete your statement.

Mr. TIPTON. All right. Remember that the water that at present is being used in Phoenix—the first use of it—is virgin water. The water that will be used in central Arizona under these ultimate conditions that we are trying to envision, which probably will never happen, will be water that comes down from the upper basin and will have been used and reused many times.

The CHAIRMAN. You are assuming, now, these artificial works of diversion?

Mr. TIPTON. Oh, yes, sir; they must be built.

The CHAIRMAN. That is what you express doubt about—as to whether or not they will be?

Mr. TIPTON. No; I am thinking of the over-all situation. I am thinking, Senator, not only of this situation, where there will be only 1,500,000 acre-feet of water for Mexico remaining in the stream, but also the question, Will the United States develop to the point where there will only be that much water? That is what I am thinking of—this ultimate that may never happen. It may be 50, 80, or 90 years from now; maybe never; I do not know. But the upper basin has a right under the compact, under the primary allocation, to consume 7,500,000 acre-feet. The upper basin produces almost all the water of the stream that formerly reached the boundary.

The virgin flow at Lee Ferry is estimated at 16,271,000 acre-feet. In order to consume 7,500,000 acre-feet out of that, the upper basin must divert the entire flow several times, so what finally will reach the lower basin will not be virgin water; it will be water that has been used several times, so that the quality of water—

The CHAIRMAN. That is on the assumption, however, that the upper basin will utilize its full quota?

Mr. TIPTON. Yes, sir. Much of the water reaching Lee Ferry at the present time, of course, is return flow from the present irrigated areas in the upper basin.

Therefore, instead of having water at the point of diversion for central Arizona that is of equal quality with the water being used in central Arizona at the present time, it will be of poorer quality. It will not be virgin flow. The criterion used to determine the estimated amount of return flow that will get back to the stream in Arizona was 3,000 parts per million of dissolved solvents. It was assumed that that water would be used and reused in Arizona to the extent that it

got boiled down to a dissolved solid content of 3,000 parts per million.

Further, it was assumed that there would be 25 or 30 percent of the water lost in transit before it got to the main stream and that the amount that ultimately flowed into the main stream would be 426,000 acre-feet, which would contain some 4,000 parts per million.

Senator DOWNEY. Mr. Tipton, how much salt can there be in the water per million and the water still be usable?

Mr. TIPTON. That is a very moot question, Senator. It depends on many things. It is ordinarily assumed at the present time that water which has dissolved solids of three to four thousand parts per million cannot successfully be used on a permanent basis. There are some crops that will subsist in water of that quality—for example, alfalfa raised for seed. But, as I say, there is no fixed criterion. There are two elements involved. One is the toxicity of certain salts. Sodium is particularly bad, since it makes the soil so that it becomes gelatinous and will not absorb water. If the major portion of the salts is sodium, the land will not remain in good condition, even with water of 1,500 to 2,000 parts. But water with 3,000 or 4,000 parts of salts per 1,000,000 that are not toxic can be used, but it would take a large quantity of such water to successfully irrigate the land.

Senator DOWNEY. Mr. Tipton, what water did you say would be impregnated with salts to the extent of 4,000 parts per million?

Mr. TIPTON. The water that would finally reach the main stream from central Arizona.

Senator, this is illustrative of the process we went through. There were two other conditions, but the principles will be the same, so that I would be very glad to answer any questions in connection with this principle that is involved.

Senator McFARLAND. I did not want to interrupt you until you had completed your testimony. I have interrupted you quite a bit. Of course, we are always glad to have someone brag about our decisions. You stated that my decision in the case which involved the Salt River Valley Water Users Association's right to use pumped water was a good decision.

Mr. TIPTON. If I remember correctly, Senator—you correct me if I am wrong—I think that that involved the principle of equivalent service; did it not?

Senator McFARLAND. Yes. I held in effect in that case some of the things you have testified to. I do not want to take up the time of the committee to tell about a case that I tried, but the Salt River Valley water users were pumping out some of the water in the Tomapa area, particularly in the area which had become waterlogged—which you described had become waterlogged. They were putting that water back in the canals and serving it to the various water users to satisfy their water rights. Some people had old water rights and were being served with this dumped water in place of river water, and they thought they had a right to river water.

The effect of that decision was this: that the Salt River Valley water users did have a right to do that, because that was one of the sources of supply of water. I held in that case that if you use a sufficient amount of this water, you can approximate the same result. I never could be convinced that you could reach the same result with water with a higher degree of salt, but I would say you can approximate it,

and I believe that is pretty well the experience that engineers have found in regard to water; is it not?

Mr. TIPTON. Yes. As I say, there are two major matters to consider. If salts are toxic, obviously they are poisonous to the plant. But if they are harmless salt—calcium or magnesium, for example—then another principle is involved. The plant lives and gets its food by the process of osmosis. As long as the soil solution surrounding the roots is of a lesser concentration than the sap in the roots, it will progress through the wall of the plant, inward, thereby feeding the plant. If the concentration becomes greater, then osmosis ceases and the plant dies.

Senator McFARLAND. The trouble comes, does it not, from the land becoming salty, rather than from salt in the particular water? There is not enough salt in the water to hurt the plant?

Mr. TIPTON. No; I do not entirely agree, Senator.

Senator McFARLAND. Not with 3,000 parts or 4,000 parts even.

Mr. TIPTON. I do not know how much it would take. It would take a large diversion to permit the successful use of 3,000 part water, assuming the salts were not toxic.

Senator McFARLAND. In this testimony, if you have read it—you have read the testimony of Carl Holmes?

Mr. TIPTON. I have not read the testimony; no, sir.

Senator McFARLAND. I am sorry you have not, because I consider that testimony very valuable in arriving at what might be return flow in this case, because Carl Holmes testified there—

The CHAIRMAN. In the case you are talking about?

Senator McFARLAND. Yes. He was formerly employed by the Department of Agriculture and had quite a bit of experience in agricultural work and this kind of thing. He testified that he took this water with a very high salt content and redeemed land by it that had become alkalized. Of course, unless we can agree that you can use water with as high a salt content, then, of course, what I might have to say would become questionable.

But let us go back to the use in the Salt River Valley. You say no return flow is reaching the Colorado River at this time. Let us talk about the surface flow. You have been talking about pumping water with higher salt content. What is the salt content of the water in the Salt River which is diverted at Granite Reef?

Mr. TIPTON. I cannot answer that.

Senator McFARLAND. Is it not a fact that practically, except in floods, all that water is diverted at Granite Reef?

Mr. TIPTON. That is correct, sir.

Senator McFARLAND. And that the river becomes dry by the time it gets down to Buckeye?

Mr. TIPTON. That is correct.

Senator McFARLAND. Maybe some of the return flow is rediverted at what is known as the old Bulls Head diversion dam?

Mr. TIPTON. I do not think very much, sir; I think most of it is diverted at Granite Reef.

Senator McFARLAND. Very well. I think Granite Reef took the place of Bulls Head Dam. Anyway, it is all diverted at Granite Reef. Then it is all diverted again at Buckeye, is it not?

Mr. TIPTON. The remaining water is diverted at Buckeye or remains in the stream.

Senator McFARLAND. They take it all out again, and then there is some more return flow that gets in the river, and then Arlington gets a chance at that?

Mr. TIPTON. That is correct.

Senator McFARLAND. They take it all out at Arlington. That makes three uses?

Mr. TIPTON. Yes.

Senator McFARLAND. Then it gets on down to Gillespie. Gillespie takes it all out, and that is the only water he gets. It is water that has been used three times, and yet it is not too salty for him to grow some of the best alfalfa that we have.

Mr. TIPTON. I think, Senator, you omitted one source of supply for Gillespie. Gillespie pumps considerable water from ground water sources.

Senator McFARLAND. Well, he does now; he did not for quite a while.

Mr. TIPTON. Also, above Buckeye and Gillespie they get some Gila River water, and they are getting also some Verde water, and those supplies are fresh in character. The only water they get from the Gila River and the Verde River are flood flows, but at the time they come they serve a very useful purpose in the permitting the leaching of land.

Senator McFARLAND. The Horseshoe Mesa Dam regulates the flow of the Verde River very largely, does it not?

Mr. TIPTON. Do you mean Bartlett Dam?

Senator McFARLAND. Yes, I mean Bartlett Dam.

Mr. TIPTON. Well, there is some unused water in the Verde—100,000 acre-feet on the average as I remember.

Senator McFARLAND. But that is only in flashes on the river and is not usable except during a very small part of the time.

Mr. TIPTON. I think, Senator McFarland, you are more familiar, certainly, than I with the fact that in the Buckeye area there have been some lands—a fairly substantial area—already abandoned due undoubtedly to the quality of the water that the Buckeye has had to use. That situation will be materially improved by putting into effect the terms of the recent mediation proceedings.

Senator McFARLAND. Well, it was some of the land not in Buckeye but right above that that I was talking about Carl Holmes redeeming by the use of more water. In other words, if you irrigate to where your water only penetrates the soil for 4 feet, we will say, and it does not go on down any lower, all the salt content of that water is left right in that soil, is it not?

Mr. TIPTON. That is correct.

Senator McFARLAND. So you have to use enough water, if you have drainage to use that salt content on at that time, and take it on below. That is the reason why you have to have a larger amount of water when you are irrigating land with water with salt content.

Mr. TIPTON. That is one of the reasons. The other reason is to keep the salt solution that is around the roots of the plant down to a concentration that will permit osmosis to work in the right direction. That is one of the reasons that the correct quantity of water must be used when the dissolved content is high.

May we say, then, Senator, that it is my conclusion that when the salt content or dissolved solids, is from 3,000 to 4,000 parts per million,

that the water cannot be used successfully for the permanent irrigation of land except by large diversions.

Senator MCFARLAND. Well, let me get back to this other line of testimony. We are figuring that most of this water with high salt content is water that is being pumped. At Gillespie do you know the salt content of the water that is being diverted by Gillespie?

Mr. TIPTON. I do not, sir; no.

Senator MCFARLAND. Well, do you not think that that is important?

Mr. TIPTON. I think that that is very important.

Senator MCFARLAND. In other words, there is water that has been used three times before, and it is being used now very successfully.

Now, as to the Gila River, all that can be used is being used by Gila proper. So before salt runs into it, it is being used by people in the San Carlos area.

Mr. TIPTON. The only water that gets to Gillespie is floodwater virtually.

Senator MCFARLAND. As far as surface water is concerned, the plant has not been damaged in regard to surface water as it has been in regard to pumped water, has it?

Mr. TIPTON. I do not know, sir. I know this, Senator, that the quality of the water at Buckeye is not so good as the quality of the water even at Arlington, which is immediately below Buckeye.

Senator MCFARLAND. I agree with you there. One of the troubles with the Buckeye people in the past has been that they have had to pump a lot of their water.

Mr. TIPTON. I am talking about river water.

Senator MCFARLAND. I know that, but they have also had to pump their water which has higher salt content. So of the million-odd acre-feet of water that is in the Gila River system, there is not a drop of it that is being used and reused at the present time to where it is reaching the Colorado River?

Mr. TIPTON. That is correct.

Senator MCFARLAND. Is there any indication that this water that is going to be placed on the land is any worse than Salt River water? It has salt content in it?

Mr. TIPTON. It has salt content. This water is virgin water, that you are using at the present time, and the water you intend to use from the Colorado River will not be virgin water. And, Senator, you need go back to one of your own statements, a sound statement and a sound principle: That in order that the land shall remain in condition, you must have applied sufficient water to carry the salts back to the stream. That is sound, is it not?

Senator MCFARLAND. In my opinion, that is fundamental.

Mr. TIPTON. All right. Now, let me make this sound statement, because I do not want to argue with the Senator.

Senator MCFARLAND. I am just trying to get the facts. I used the word "quarrel," but I did not mean that.

Mr. TIPTON. Let us follow that to the end point, going back to one of my previous statements. If that is a correct principle, and I say that it is, and I think you agree that it is, then finally some water, even under your present conditions in the Gila River, must get back to the stream, or the lands of some of the users are going to deteriorate to the point where they cannot be irrigated, for some water must get back

to the stream in order to carry the salts back. Even if you can use 3,000 or 4,000 parts per million of water, finally the last set of irrigators must apply maybe two or three times the amount of water that the upper ones are applying, in order to utilize the water containing 3,000 or 4,000 parts of salts per million. The water must get back to the stream from that last set of users, in order that their lands shall be kept in good condition.

So that constitutes the final return flow, and it is not occurring in the Gila River. For that reason I say that some lands there must be abandoned ultimately unless new water is brought in.

Senator McFARLAND. I would heartily agree with you on that. It just requires more water.

Mr. TIPTON. But you do not have the water, Senator.

Senator McFARLAND. Well, we do not have the water now, but we hope to have it.

Mr. TIPTON. That means new water brought in.

Senator McFARLAND. In order to get more water, you have to bring it in.

The CHAIRMAN. The way in which you will get it will be to get new water from some other area.

Senator McFARLAND. Yes. What I am getting at is that while, of course, we are now using and reusing that water, and we may have to reduce the land, we will have to do either one of two things. In central Arizona we have got to get more water or else reduce acreage. I agree to that.

Mr. TIPTON. Correct, sir.

Senator McFARLAND. Because we have not enough water to irrigate the lands.

Mr. TIPTON. Would you not agree that your last set of water users on the stream—we will say physically the lowest set of water users on the stream—finally must return some waters to the stream, or else their lands are going to go out of production?

Senator McFARLAND. Well, Mr. Tipton, let me make this distinction. Is it not a fact that your saltiest water, the water with the highest salt content, is going underneath the soil rather than on top?

Mr. TIPTON. No, sir.

Senator McFARLAND. You do not agree with that?

Mr. TIPTON. No, sir; I do not think so.

Senator McFARLAND. Do you know what the salt content of the water that is being pumped, for instance, down at Welton is?

Mr. TIPTON. I know that it is very poor water.

Senator McFARLAND. That is not underneath; that is on top.

Tr. TIPTON. That is localized ground water. That ground water does not come from the Salt River Valley.

Senator McFARLAND. I agree with you that that water is really too salty to use, but they are using it.

Mr. TIPTON. Yes.

Senator McFARLAND. That water is about 12,000 parts per million.

Mr. TIPTON. How long can they use it successfully, Senator?

Senator McFARLAND. I do not know. Those people need relief. I agree with you on that. They are doing the best they can. But the point is that anytime there is water running down that river and there is land to put it on, you are going to have someone putting it on

that land, because you do have people down at the head putting water on land, and that water has 12,000 parts per million. That just shows what the demand for the use of water is. But I cannot say this, because I am an engineer; I am going only on the basis that Arizona does not allow water to run down that river. Arizona will use that water. That is my honest opinion about it, because we have so much more land that could be irrigated than we have water with which to irrigate.

Mr. TIPTON. I agree on that, Senator.

The CHAIRMAN. May I interject right there? As I understand your testimony, it is that that area in Arizona now has no return flow into the river at all?

Mr. TIPTON. That is correct.

The CHAIRMAN. And with the water being used over and over and over by these different projects on down the stream, the last users will ultimately have their lands so impregnated with these salts that it will be necessary to restrict their production unless you get new water into that area from the Colorado River above?

Mr. TIPTON. Or unless some of the lands are abandoned, as Senator McFarland says.

The CHAIRMAN. Well, I say, you have either to abandon lands or get new water?

Mr. TIPTON. That is correct.

Senator McFARLAND. Your last user is at Gillespie? That is the last big user?

Mr. TIPTON. That is right.

Senator McFARLAND. What investigation have you made as to the quality of Mr. Gillespie's land?

Mr. TIPTON. His water?

Senator McFARLAND. Of his land.

Mr. TIPTON. Oh, his land. I have made none, sir.

Senator McFARLAND. Then, you really do not have any engineering data on which to base an opinion, do you?

Mr. TIPTON. It needs only the principle that you yourself agreed to—that you must have returned to the stream a certain amount of water to maintain the salt balance. It is axiomatic, therefore, that the last set of water users must return to the stream a certain amount of water, or their lands will deteriorate.

Senator McFARLAND. There is an underflow all through the Salt River Valley of percolating water. You can wash the water on down below without its ever returning to the stream; can you not?

Mr. TIPTON. You are more familiar with the physical characteristics of the Gila River than I am, but, as I understand it, there are various points in the Gila River where there are what we call rising water. There are impervious barriers across the stream where the water comes to the surface. In other words, the stream even in its original state probably was dry for a considerable distance between those rocks barriers during low-water periods, and then there would be a considerable flow come up at the barriers.

There are several of them above the Buckeye heading. The Buckeye heading itself is at one of those so-called barriers. So whatever water does percolate finally gets back to the stream by that means. The last one of them is down probably near the Sentinel Dam site, as I understand it. There are a series of them downstream.

Senator McFARLAND. You say there is one at the Sentinel Dam site. That is not raising water now.

Mr. TIPTON. No.

Senator McFARLAND. How do you know how much water it will take to raise it there?

Mr. TIPTON. It will take considerable. It will take considerable water to recharge the depleted ground water. When it is recharged, then it no longer has to be recharged. The water will be at the surface, and from that time it will be a fairly live stream.

Senator, the item involved here, that we are talking about, under the most probable condition that will develop in Arizona, would not be as large as this. Even if you had no returns from central Arizona, there would still be a considerable amount of return below Imperial Dam.

Senator McFARLAND. You specified, I believe, to 380,000 acre-feet of return flow down below. That is water that cannot be used—most of it—unless some of it could be pumped into the All-American Canal. But what I added up was, I believe, 380,000 acre-feet of return flow there. But as to these 426,000 acre-feet—as I say, I am not an engineer—I cannot see how you can really say that they would be used by Arizona, from the engineering data which you presented here, because I do not believe you would have sufficient to base that estimate on.

Mr. TIPTON. It is based largely on this question of usability of the water from the standpoint of quality. We will have to say that there is not a complete meeting of minds, as far as you and I are concerned, as to the usability of that water. I agree with you that certainly if the salts are not toxic, you can pour water on to make it usable. It is being done on the Pecos River—water of 6,000 or 7,000 parts—but it is not being done very successfully.

Senator McFARLAND. The point I was making is that here are these people at Welton. I am saying it as a practical fact, whether it is most profitable or not. Unless there is something done to prevent it, when people are actually pumping water which has 12,000 parts—if I am wrong, I hope someone will correct me—as a practical fact, when they are pumping 12,000 parts per million, they are going to let water run down much less.

The CHAIRMAN. Senator, what are you going to do about it, if it is a fact? They have no more water. You are complaining about the lower area there that does not put a gallon of water back in the river. If you want more and are going to get more water, you have to get it out of the Colorado in these other region.

Senator McFARLAND. I am not complaining, and I am not saying now that this treaty should be rejected on this. All I am trying to get before the committee are the actual facts. I do not want the people of Arizona, California, Nevada, Utah, or some other State to depend on Arizona letting return water come down the river which probably will not come down.

The CHAIRMAN. He has already said there is not a drop of it coming down.

Senator McFARLAND. It may well be that the treaty should be ratified notwithstanding, because Mr. Tipton has already testified as to 380,000 acre-feet of water which, in his opinion, could not very well be reused.

Mr. TIPTON. There is additional water in that category, Senator.

Senator McFARLAND. Will you complete that? I think we could go on indefinitely. I do not want you to misunderstand me. I am not saying that 3,000 or 4,000 parts water is good water. I know it is not, you know it is not, and anyone who has ever tried to use it knows it is not. But the point I am trying to make is that they do take it and use it if it goes down the river.

Mr. TIPTON. I agree that they use it; there is no argument there. I think every State does, Senator. If Mexico received 2,000 or 3,000 parts water—2,000 part water—it would not be so bad that she could not still use it.

Senator McFARLAND. If she would put it under the 3,000 mark, that would be about right; would it not? You would want to get it under 3,000?

Mr. TIPTON. Yes; I would.

Just to complete your line of thought as to the amount of water that would be there without any water from central Arizona, you must add the desilting water; that is, water which is used at Imperial Dam for desilting purposes. That at one time was estimated by the Bureau of Reclamation to be 387,000 acre-feet, I think.

Senator McFARLAND. For desilting purposes?

Mr. TIPTON. Yes; but to be conservative, that estimate has been reduced to 100,000 acre-feet.

Senator McFARLAND. Where does that come from?

Mr. TIPTON. It comes from the desilting works at Imperial Dam.

Senator McFARLAND. The desilting works at Imperial Dam?

Mr. TIPTON. Yes. Those works have just begun to operate, and I do not know how much is being used. For many years it will be much more than they use, but my own personal opinion is that as time goes on the water requirement for desilting will reduce as the river becomes stabilized. So the desilting water was estimated on a conservative basis as 100,000 acre-feet. That would be added to the quantity which you suggest would be there if no water came from central Arizona.

With the Sentinel Dam constructed for flood-control purposes, there will be some water available from the Gila River itself. The flood flows to be regulated we estimated at 100,000 acre-feet average. That will not be there every year. It will average 100,000 acre-feet. But if you kept it in the reservoir indefinitely it would evaporate. But it can be regulated to Mexico's requirements, and the equivalent quantity withheld in the upper main stream reservoirs, and we can thereby get some use or credit for the Gila floodwaters.

Senator McFARLAND. We could use that without the Mexico situation, without the treaty? We could use that here in the United States?

Mr. TIPTON. You mean on the Gila project?

Senator McFARLAND. Yes.

Mr. TIPTON. I think you could repump it.

Senator McFARLAND. If you used water in central Arizona, you could use or let that water come on down Yuma way and use this Sentinel water for diversion on the lower Yuma; could you not?

Mr. TIPTON. You could divert it by pumping; yes, sir. It would be in the same category as the return flow. It could be pumped. In this way it could be pumped to the All-American Canal or be pumped to the Yuma—not all of it; but a portion of it could be.

Senator McFARLAND. Let us suppose that Arizona used this up; that the people of Arizona were the first to use this water. Let us suppose it was decided to divert a large amount of water in central Arizona and bring it around that way rather than the other way. Would not that decrease the amount down in the lower portion that would be reused water?

Mr. TIPTON. Yes, sir; that is correct.

I have so far explained only one condition we assumed which was the one that would result in the minimum return flow. We assume this to be the condition where Arizona would have——

Senator McFARLAND. The minimum condition is really the important one, as far as our consideration is concerned?

Mr. TIPTON. It depends again on where Arizona is going to use this water. The condition we finally fixed upon was the one the group of engineers discussed last month.

Senator McFARLAND. How many acre-feet do you estimate to go in, or did you make this the basis of, or did you use as a basis of your consideration here for diversion into central Arizona—2,000,000 acre-feet, 1,500,000 acre-feet, or how much?

Mr. TIPTON. It was around approximately 1,500,000 acre-feet.

Senator McFARLAND. So, if you increased it another half million, it would decrease the amount down at Yuma?

Mr. TIPTON. Yes.

I am not going to the intermediate condition, Mr. Chairman. Instead of describing that, I think I will give the items just as I did in connection with the minimum condition. This is the condition about which Mr. Lowry testified. We have taken considerable time on a condition which was not the background of Mr. Lowry's testimony, but I wanted to build up and show you the various ranges.

Under this condition we assume that there would be 160,000 acres irrigated on the Gila project, Senator McFarland, and under this condition we assume the return flow would be as follows:

Yuma project, 135,000 acre-feet. There was some correction there on acreage. We assumed the full irrigation of 67,300 acres, and a return of 2 acre-feet per acre, again to maintain salt balance.

Senator McFARLAND. Where is that, now?

Mr. TIPTON. That is Yuma, 135,000 acre-feet.

Gila project, 160,000 acres. We reduced that to $2\frac{1}{2}$ acre-feet per acre. Assuming a consumptive use of $3\frac{1}{2}$, there would be a return of 400,000 acre-feet.

The seepage loss from the All-American Canal, 65,000 acre-feet. That would be there under any condition.

The central Arizona project, 330,000 acre-feet. We are using more water in this condition on the Gila.

Unused Gila River flow, 100,000 acre-feet.

Desilting water at Imperial Dam, 100,000 acre-feet.

A total of 1,130 acre-feet.

There is just one other condition, Mr. Chairman, and that would be the condition which would contemplate no use by Arizona of main stream water in central Arizona and the use of practically the entire amount of Arizona's share of Colorado River water on main stream projects, including the Gila project.

The CHAIRMAN. Do you mean no more water than she is using now?

Mr. TIPTON. In central Arizona.

The CHAIRMAN. But you mean no more than she is using now?

Mr. TIPTON. She is using no main stream water.

The CHAIRMAN. I understand; but she is using some for irrigation.

Mr. TIPTON. Yes; but I am talking about unused main stream water.

I will read this paragraph which is a paragraph from the report of the conference engineers held last month.

In the event Arizona development occurs on the Gila project and not in central Arizona, the return flow appearing in the river below Imperial Dam will amount to approximately 1,400,000 acre-feet per annum.

The details of that Mr. Rider will testify to, if you want the breakdown.

Senator McFARLAND. As to these other plans, it is just a matter of going over them with you?

Mr. TIPTON. The principle is the same.

Senator McFARLAND. The principle is the same. It is just a matter of percentage which we could sit down and figure out from the other. If I did not agree with you, I could figure it out on the same percentage?

Mr. TIPTON. That is correct.

As to the condition Mr. Lowry testified to, of the 1,130,000 acre-feet, there would be 300,000 acre-feet—something less than a third—that would have been in the category we were talking about from central Arizona. If there had been none of that return, there would remain 800,000 acre-feet under this assumption.

The CHAIRMAN. Go ahead, Mr. Tipton.

Mr. TIPTON. I think that covers my testimony, Mr. Chairman.

The CHAIRMAN. Very well. The committee will recess until 2:30 this afternoon.

Senator DOWNEY. I would then like to ask Mr. Tipton some questions, if I may.

The CHAIRMAN. Very well.

(At 12:30 p. m., a recess was taken until 2:30 p. m. of the same day.)

AFTERNOON SESSION

The hearing was resumed at 2:30 p. m., on the expiration of the recess.

STATEMENT OF R. J. TIPTON—Resumed

The CHAIRMAN. Senator Downey desires to ask you a few questions.

Senator McFARLAND. Senator, would you mind if I just asked one or two questions first?

Senator DOWNEY. Certainly not.

Senator McFARLAND. In regard to the return flow that we have been talking about, I want to make my position clear in this regard, that I take the position and, I think, rightly so, that Arizona will get credit under its allotment for any return flow, and therefore it may be that Arizona will well want this water to go on down, because she will get better water in exchange. All I was trying to do was to bring out the facts and develop them as they would appear from an engineering standpoint.

There is one other thing that I would like to bring out. I think you touched on it, and that is this matter of salt content. That may give a false impression in regard to the quality of water that Mexico will get. As I understand it from your testimony, there is 380,000 acre-feet of this water which will be very good water, return flow water, that cannot be used except by pumping it back into the Imperial Canal. There is also 100,000 acre-feet of water that would come down the river, desilted; is that correct?

Mr. TIPTON. That is correct; yes, sir.

Senator McFARLAND. And then you estimate another amount of water which may come from the All-American Canal, from seepage?

Mr. TIPTON. That is correct; 65,000 acre-feet, sir.

Senator McFARLAND. How much do those three amounts add up to? I do not have a pencil here.

Mr. TIPTON. That would be 545,000 acre-feet, without counting any floodwater from the Gila.

Senator McFARLAND. And how much do you estimate the floodwater will be from the Gila?

Mr. TIPTON. An average of 100,000 acre-feet that would be usable.

Senator McFARLAND. That would be 645,000 acre-feet. I am just taking your own figures now. If you added to that amount the 626,000 acre-feet of water, return flow from central Arizona, which would be of poor quality, and mix that with the 645,000 acre-feet, together with the 500,000 acre-feet of good water that we must supply under the treaty, all mixed together it would be a very good quality of water?

Mr. TIPTON. It will be a usable quality of water; yes, sir.

At a conference held recently between engineers in Denver, under the most unfavorable combination of circumstances—I will not say most unfavorable, but the most probable combination of circumstances—it appeared that the water going to Mexico might contain 2,000 parts of salts per million or somewhat less. That is assuming about a thousand parts per million at Lake Mead.

Senator McFARLAND. As time goes on, not in your time or my time, this water might improve in quality, too, as the salt is washed out of the land, might it not?

Mr. TIPTON. No, sir; I do not believe so, sir. I think the main portion of the salts are the salts that were originally in the water, that must be retained in the water down to the lowest irrigator, in order that the land may continue to produce crops. To some extent your statement may be correct.

Senator McFARLAND. There is not enough to take into consideration as far as these hearings are concerned. It would not be in the immediate future, anyway?

Mr. TIPTON. No, sir. And there is one thing we must all realize. The conditions that we are talking about now are in the distant future. They may never come about.

I want to verify one point that you brought out. Your questioning at this moment was directed at a condition of development in Arizona that the Bureau does not consider to be the most probable. It would, however, be a condition of development that would result in the greatest use in central Arizona. The condition which would obtain under Mr. Lowry's testimony the other day would result in 800,000 acre-feet of water being in the river below Imperial Dam, which would

be in the same category as the 645,000 acre-feet that I mentioned in response to your question.

I have finished, sir.

The CHAIRMAN. Have you finished, Senator?

Senator McFARLAND. Yes.

Senator DOWNEY. Are you one of the consulting engineers of the Boundary Commission?

Mr. TIPTON. Yes, sir; I am, sir.

Senator DOWNEY. I understand you to say that in your opinion there is no guaranty to be implied from this treaty that the water furnished to Mexico shall be of such quality that it will be usable for irrigation?

Mr. TIPTON. That is correct, sir.

Senator DOWNEY. I think you also stated that you based that opinion, in part, at least, on conversations and exchanges of data between the two Governments leading up to the treaty?

Mr. TIPTON. That is correct, sir.

Senator DOWNEY. Mr. Chairman, I would like to request at this time that the chairman request the State Department to make available to the committee the exchange of all documents or correspondence tending to show any admission by the Government of Mexico that in the interpretation of this treaty she would not rely upon the fact that she was entitled to water of a quality that would be usable.

The CHAIRMAN. I will consult with the Department. I do not care to stop the proceedings at this moment to do so.

Senator DOWNEY. This is a point of rather grave importance to us. Would the chairman consider that it is a proper request?

The CHAIRMAN. The Chair will consult with the State Department. He does not care to be catechized about what he is going to do. The witness has gone over the subject of the treaty several times already. Proceed.

Senator DOWNEY. In your opinion, Mr. Tipton, would a treaty which gave Mexico all of the return flow of the river, whatever that might be, plus 500,000 acre-feet of fresh water, be just as favorable to Mexico as the present treaty?

Mr. TIPTON. I think it would, sir; yes, sir.

Senator DOWNEY. And you can on your part see no reason why that sort of treaty would not be acceptable to the Mexican Government?

Mr. TIPTON. Yes; I can see a very good reason why it would not be acceptable, and I wish to qualify my former answer. I can see a reason that such a treaty would not be so favorable to the United States as the present treaty, and I can certainly see why Mexico would not accept the terms of a treaty with such provisions.

Senator DOWNEY. Why would that be?

Mr. TIPTON. Because the control of the development that will produce the return flow is under the United States and the States of the United States. The Republic of Mexico has absolutely no knowledge of what the development in the United States might be; has absolutely no control over the development, has no means of knowing how much the return flow might be, and therefore, would certainly be unwilling to accept the terms of a treaty which would leave indefinite that quantity of water. They are not in a position to know how much that might be—not in the same position that the United States is in.

I think, Senator, all that we would have to do would be to place our-

selves in the position of the Mexicans, and I think that you would immediately come to that conclusion. The Mexicans know nothing about the plans of Arizona. They do not know how much of this water will be used in the upper basin. So far as Mexico knows there might not be any water used by Arizona. But we are in position to know. We are in a better position to say these things through the medium of a treaty than Mexico is. From the standpoint of the United States the terms of the treaty are more favorable to the United States than the ones suggested by you. It is much more favorable to the interests whom I represent here to have the Mexican burden very definitely fixed by treaty, and this treaty does fix it at $1\frac{1}{2}$ million acre-feet. If it were fixed at X amount of water, we will say 500,000 acre-feet, plus the return flow, the burden becomes indefinite.

You must understand, Senator, that every drop of water passing Lee Ferry under future conditions will be return flow—every drop of it. Now the question is, How much of that return flow as such will Mexico receive under such an indefinite treaty? I think a treaty with the definite amount of 1,500,000 acre-feet specified and fixed is much more favorable to the United States than would be one which allocated to Mexico 500,000 acre-feet plus all the return flow that we would not use in the United States.

Senator DOWNEY. I assume that we may agree upon one thing, at least, that in all probability, whatever amount of water ultimately goes to Mexico will come almost entirely from both Arizona and California, or one or the other. Is not that true?

Mr. TIPTON. Senator, if you will bear with me, my testimony at the moment is directed merely to the question of return flow reaching the stream below Imperial Dam and its sources, and I am not prepared to go into those matters. I will go into them fully later, but I am not prepared to offer my main testimony at this time, sir. But I will be available, and I will be very willing to go into any of those matters that you desire to go into.

Senator DOWNEY. All right, Mr. Tipton. Then I will ask you this question. Why do you think Mexico should not be asked to depend upon the fact that there will be upwards of a million acre-feet of return flow for use in Mexico? You are here suggesting very strongly that the lower basin States may depend upon that fact.

Mr. TIPTON. No, sir. I am merely testifying as to what I believe will be an engineering fact. I am not urging the lower basin, I am not urging anyone, to accept these conclusions. Further, if the lower basin should get credit for return flow under the compact, it does not matter how much return there is to the river, so far as the treaty is concerned and its effect upon uses in the United States. But I would prefer not to discuss that at this time, because it requires considerable testimony, and I am not prepared to go into it at this time.

Senator DOWNEY. Let me ask you this question, then. Is not the effect of your testimony that under any scheme of development of the Colorado River in the United States there must result something in excess of 1,000,000 acre-feet of return flow at the Mexican boundary?

Mr. TIPTON. I did not testify that the return flow would be that much, Senator. There are other types of water in there. If you will include all the water that reaches the stream below Imperial Dam, that is correct, sir, in the absence of its being reused by pumping

through the All-American Canal. It is entirely possible that it could be pumped.

Senator DOWNEY. That is a very small item, though, is it not?

Mr. TIPTON. It is not too material an item.

Senator DOWNEY. How much of an item might it be?

Mr. TIPTON. I am just guessing, now. I would have to analyze these various quantities; but it could amount to 300,000 or 400,000 acre-feet, probably.

Senator DOWNEY. Of water other than what you would define as return flow?

Mr. TIPTON. No; I mean water that could be pumped into the All-American Canal, pumped at a reasonable lift and with a reasonably short pump line.

Senator DOWNEY. Then what is the amount of water that you would estimate that would be necessary to irrigate down to the Mexican border as return water, or from similar sources, that we could not recapture or use in the United States? What is the minimum amount?

Mr. TIPTON. Understand, Senator, that as I mentioned this morning we had to make several different assumptions; so I will have to take one of those assumptions and give you an answer based on that; and the answer would be different for different assumptions as to how Arizona would use this water.

Senator DOWNEY. I am asking for the minimum amount of water, the smallest amount that must escape out of the United States down into Mexico as return flow or some similar kind of water.

Mr. TIPTON. Assuming, Senator, that there would be pumped into the All-American Canal all the water that would be practicable to pump, to reach the river below Imperial Dam—your question is predicated upon that condition, is it not?

Senator DOWNEY. I would presume that you would predicate it on that. I am just asking you the minimum amount that must escape down to Mexico, in your opinion, that we could not by any method recapture in the United States. I do not know what the facts are.

Mr. TIPTON. If Arizona irrigated 160,000 acres of land on the Gila project, irrigated 100,000 acres on the Parker Indian project, and used the varying small amounts of water she at present uses along the upper tributaries, and if there was pumped to the All-American Canal all of the return flow that it was practicable to pump, assuming that the Imperial Canal would not want water of 4,000 parts per million, then the minimum going to Mexico would be of the order of 730,000 cubic feet.

Senator McFARLAND. That is assuming that the Imperial Valley would permit the pumping of that water?

Mr. TIPTON. No; would not use water having a salt content of 4,000 parts per million. If she used that character of water, basing it strictly on a physical proposition, the minimum would be of the order of 400,000 or 500,000 acre-feet that would unavoidably go to Mexico.

The CHAIRMAN. Is it the basis of the assumption also that the Imperial irrigation district would take out all the water it could, or all it is taking now?

Mr. TIPTON. This, Senator, would be aside from what the Imperial district is taking out of the river at the present time. It is assumed that before this time would be reached the Imperial district would be taking out a larger volume of water.

The CHAIRMAN. The testimony shows that they have been in the past taking out 3,000,000 acre-feet.

Mr. TIPTON. Two and a half million acre-feet, Mr. Chairman.

The CHAIRMAN. So it is predicated on the theory that they will take out still more?

Mr. TIPTON. Two and a half million acre-feet, and probably more.

The CHAIRMAN. Additional?

Mr. TIPTON. More than two and a half million acre-feet from the river direct, and than that they could pump all the way from 300,000 to 500,000 acre-feet out of the drain water reaching the stream below Imperial Dam.

I am having, Senator Downey, to bracket these figures. I think you can understand that these are on assumptions of use in Arizona; but to give an exact figure would not be practicable.

Senator DOWNEY. Yes, Mr. Tipton; but I am a little bit confused about your last answer. I thought you said to me that the inescapable minimum of water to Mexico under any condition would be 750,000 acre-feet; and then I understood you, in your answer to Senator McFarland's question, that it would be 400,000 acre-feet.

Mr. TIPTON. If the Imperial irrigation district was willing to use water which had 4,000 parts per million of dissolved solids and would pump that water. I do not think the Imperial irrigation district would. I am assuming that she would forego the use of that type of water, and that that type of water would go to Mexico.

Senator DOWNEY. Under those conditions it would be approximately what?

Mr. TIPTON. I would say she might pump 300,000 to 400,000 acre-feet; about 400,000, along on that order.

Senator DOWNEY. Returning to the question of any implied guaranty in the treaty that water shall be of sufficient quality to be available for irrigation, I suppose that you formed your opinion merely from the language of the treaty itself, without regard to those conversations and exchanges between the two Governments that you have spoken of. Would you still be of the opinion that from the language of the treaty itself a court or an international arbitration tribunal would not hold that Mexico was entitled to water that was fit for irrigation purposes?

Mr. TIPTON. That is my unqualified opinion, Senator, because the language of the treaty resulted from these conversations that you mention, and the language of the treaty was just as plain as it was possible to make it, and in my unqualified opinion the language of the treaty is such that Mexico could not ask for more water than 1,500,000 acre-feet for any purpose whatsoever.

Senator DOWNEY. You do not think that just adding three simple words, "regardless of quality," would have made it any plainer?

Mr. TIPTON. The language of the treaty is perfectly plain.

Senator DOWNEY. Now, Mr. Tipton, you say that if the treaty had included the expression, "regardless of quality," that might perhaps have prevented the Mexican Senate from ratifying the treaty?

Mr. TIPTON. The ones in the Mexican Senate are not so conversant with the situation on the river as those who negotiated the treaty. Those who negotiated the treaty understood fully what they were doing. They understand fully what the condition might be ultimately,

while those in the Senate might not be conversant with that condition. The language in the treaty is plain and it means one thing, and one thing only, and the ones who negotiated this treaty for Mexico understand it. They also understand about what the quality might be under ultimate conditions. In other words, there was no tendency on the part of the United States negotiators to work out something that was bad for Mexico, and Mexico's negotiators, on the other hand, knew plainly what they were doing, and the language was agreed to with one purpose in mind, and they understand it.

Senator DOWNEY. I assume that you have had a long experience as an irrigation and water engineer?

Mr. TIPTON. All my professional experience has been practically along that line; yes, sir.

Senator DOWNEY. Suppose the terms of this treaty were embodied in a water compact between some company selling water and a water user, and the same language were used, applying, so far as you think it applies, to the quality of water; do you think that under that language the seller of water could make the purchaser take water for irrigation purposes that was unusable?

Mr. TIPTON. I think that is a legal question, Senator. We will have men go on who will be more qualified than I to go into the legal aspects. I can only say this, sir, that within my own State, which is Colorado, there are users of water who have senior water rights on the lower reaches of some of our streams, and over a period of years the water supply available to those users of water has become progressively of poorer quality than originally was available to them. There is no law within our State which offers any protection against that condition. We have had no court cases such as have been had in Arizona to clarify the situation. But the user of water, under our decrees in Colorado and, so far as I know, in the other States, is not entitled to receive more water than the original decree calls for because of a deterioration in the quality of the water.

Senator McFarland, I think, brought it out plainly, that there is not necessarily an end point; it is merely progressive. As the quality becomes worse it requires more water. If you cannot get more water, you must reduce your acreage.

I know of no instance in my own State where anyone having a water right receives more water on account of the act of someone else above taking water out of the stream and giving the last user on the stream water that has been reused several times and has caused the quality of his water to become much worse than it originally was when he initiated his appropriation.

Senator DOWNEY. Of course, Mr. Tipton, in this treaty you start out by declaring a guaranteed right to Mexico of 1,500,000 acre-feet of water?

Mr. TIPTON. That is correct.

Senator DOWNEY. And it is recited that that water shall come from any and all sources.

Mr. TIPTON. That was put in to cover drainage. That was the intent, Senator, and there is no question about it.

Senator DOWNEY. You are still firmly of the opinion that even though we in the United States could work out our irrigation so as to deliver water to Mexico that was so saline as to be totally useless to Mexico, Mexico would have to take that, under the treaty?

Mr. TIPTON. That is my own opinion, sir; but I want to point out again that while that was the intent of the language of the treaty, I am not an attorney. There will be witnesses for the Six State Committee who are attorneys and can probably go into that further with you from the legal standpoint. I cannot, sir; I can only tell you what the intent was.

Senator DOWNEY. But you have already told us that there are documents signed by the Mexican Government in which they agree to take water regardless of its quality.

Mr. TIPTON. No, sir; I did not make any such statement.

Senator DOWNEY. What was it, then?

Mr. TIPTON. I told you that there was a passage of memoranda between the negotiators which indicated what our intent was, and the language was finally written around that. There was nothing signed.

Senator DOWNEY. It was a memorandum on our part?

Mr. TIPTON. Yes, sir.

Senator DOWNEY. So far as you know, is there any memorandum on the part of the Government of Mexico stating that it will take water which is not usable?

Mr. TIPTON. Senator, you are assuming that this water is not usable. I am not assuming that it will not be usable, and neither were the Mexican negotiators. I think you are making an assumption which is not true.

Senator DOWNEY. I understood you this morning to say that there had been memoranda signed by both Governments.

Mr. TIPTON. I did not mean to convey that impression. I meant that there were memoranda passed from the American negotiators to the Mexican negotiators indicating plainly what the intent of the American negotiators was; and there was not only one; there were several. As a result of that the American demands were accepted and there was written into the treaty the present language which is supposed to cover the situation. Whether it does or whether it does not is a question of interpretation of language and a question of legal interpretation of language. But the language is there to express an intent, and I know what the intent was.

Senator DOWNEY. On the part of the United States?

Mr. TIPTON. On the part of the Mexican negotiators.

Senator DOWNEY. Is the intent on the part of the Mexican negotiators expressed in writing?

Mr. TIPTON. I do not know, sir; but I am just telling you that as one of the negotiators, whether it was in writing or not, it was understood.

Senator DOWNEY. That is all.

Senator MURDOCK. May I ask a question?

The CHAIRMAN. Certainly.

Senator MURDOCK. Referring to the compact between the States which has been approved by Congress, I think the language in substance says that both basins are entitled to beneficially consume in the respective basins 7,500,000 acre-feet of water annually. Is that your understanding?

Mr. TIPTON. That is what the compact says; yes, sir.

Senator MURDOCK. And that in addition to the 7,500,000 acre-feet in the lower basin, that basin has the right to beneficially consume another million acre-feet?

Mr. TIPTON. That is correct, sir.

Senator MURDOCK. Making the beneficial consumption of water in the lower basin annually 8,500,000 acre-feet?

Mr. TIPTON. That is correct, sir.

Senator MURDOCK. Now, assuming that there is diverted in the lower basin 9,500,000 acre-feet of water, and as a result of that diversion and beneficial use in the lower basin there is a resultant 1,000,000 acre-feet of return flow, which is returned to the river at a point below which it can be again diverted in the lower basin; how much, as an engineer, would you say the beneficial consumption of water has been in the lower basin?

Mr. TIPTON. Physically, it would be 8,500,000 acre-feet.

Senator MURDOCK. In your opinion, as an engineer, under the facts that I have stated, you say that the lower basin has consumed 8,500,000 acre-feet?

Mr. TIPTON. I say, physically, so far as the river system is concerned above the Gulf of Lower California.

Senator MURDOCK. That is what I mean.

Senator DOWNEY. In connection with the same thing, if there is diverted from central Arizona 2,000,000 acre-feet, and there is returned from that same river into the river 500,000 acre-feet of water, do you mean to say that there has been a beneficial consumptive use of 2,000,000 acre-feet by Arizona?

Mr. TIPTON. No. Physically there has been consumed 1,500,000 acre-feet.

Senator DOWNEY. And that is all that Arizona would be charged with, is it not?

Mr. TIPTON. You are getting into a question of interpretation of the compact, and I am not prepared to go into that at this time. Senator Murdock's question was from an engineering standpoint, a physical standpoint. She would be consuming 1,500,000 acre-feet. She would be depleting the flow of the stream, we will say, by 1,500,000 acre-feet.

Senator DOWNEY. Are you familiar with the late report of the Bureau of Reclamation about which I think you were talking?

Mr. TIPTON. I am familiar with the confidential report; yes, sir. That has not been released for use in any fashion. It has been submitted to the various States for comment, and the States have not yet finished their comments or review.

Senator DOWNEY. Do you not know that in that report of the Bureau of Reclamation they contemplate giving under certain conditions 2,000,000 acre-feet of water in central Arizona? They contemplate that there will be only a beneficial use or consumptive use of 1,500,000 acre-feet, and that is all they charge Arizona with?

Mr. TIPTON. I think Senator, it is beyond the power of the Bureau of Reclamation to give Arizona or any other State any water from the Colorado River. The giving of the water must come about under the terms of the compact and be within the laws of the various States. I am familiar with some of the statements in that report, but, as I say, the report is not a final report. There are many things in it that will be changed before it becomes a final report, because there are many things in it that I think, and I think the representatives of the Bureau believe, are not strictly correct, sir.

Senator McFARLAND. You do not mean that it is not correct?

Mr. TIPTON. I am not commenting on any phase of it. All I say is that it is a preliminary report and is not available for use in any fashion until it becomes a final report.

Senator JOHNSON of California. Are you appearing for the Six State Committee?

Mr. TIPTON. I am appearing here for the Six State Committee, Senator Johnson.

Senator JOHNSON of California. How long have you been employed by them?

Mr. TIPTON. Since the committee was formed, I believe, in July of last year. I am not sure what month, but it was along in the summer of 1944.

Senator JOHNSON of California. Are you familiar with this pamphlet of the Mexican treaty?

Mr. TIPTON. I am familiar with the Mexican treaty, but I do not know what pamphlet you are referring to.

Senator JOHNSON of California. You have not seen that [indicating]?

Mr. TIPTON. No, sir; I have not.

Senator JOHNSON of California. I want to read to you certain paragraphs and see if you can expound to me why we should not adopt this treaty.

Mr. TIPTON. Senator, may I say that my testimony at this time is directed at one thing and one thing only. I think that you were absent this morning when the chairman announced that. My testimony has to do with return flow. I want to assure the Senator that I will be back here as a witness to discuss more fully the treaty and the position of the Six State Committee, and I will be available at that time for full questioning.

Senator JOHNSON of California. You desire that the examination continue until that time?

Mr. TIPTON. Yes, sir. I would prefer, also, that one of those pamphlets be made available to me. I shall study it and be prepared to respond to questions that you might ask in connection with it, if that is satisfactory, because my testimony is directed at only one narrow phase of the problem at the moment.

Senator JOHNSON of California. And that is what?

Mr. TIPTON. Return flow below Imperial Dam. I appeared here at the request of the chairman, in response to California's request that the return flow be more fully explained. I thought it was a very fair request, because there had been testimony concerning it, with no details whatsoever, and it was unfair that the record be left that way. I came here at the request of the chairman that some details be given in reference to it. My main testimony, when I appear, will be in behalf of the six State committee, and that will be at some future time in these hearings, and I will be available and will be perfectly willing to answer whatever questions the Senator wishes to propound, or to attempt to answer them. I would prefer to reserve any answers, other than those directed at return flow, until I offer my main testimony.

Senator JOHNSON of California. I am perfectly willing that you should be prepared and that you come back here thoroughly prepared upon the subject, and then I will ask you concerning Mexico's proportion and the United States proportion.

Mr. TIPTON. Yes, sir.

Senator JOHNSON of California. I will ask you, then, about the cost of the Boulder Dam and will ask you why the United States should pay all of its cost and Mexico pay nothing, and Mexico get exactly what she wants.

I am just stating to you what I will ask of you when you come back, so that you may be thoroughly prepared.

Mr. TIPTON. I appreciate very much being forewarned by that statement, Senator, and I shall attempt to answer those questions.

Senator JOHNSON of California. I want to be fair with all witnesses, and if I can prove that some \$600,000,000 was paid by the United States of America for the Boulder Dam, and there was nothing paid by Mexico, I, of course, will expect you to say that.

Mr. TIPTON. I will be prepared to answer those questions.

Senator JOHNSON of California. And you will investigate in the meantime the amount of money that is invested in Boulder Dam, so that you will be prepared on that?

Mr. TIPTON. Yes, sir.

Senator JOHNSON of California. When do you expect to be ready to testify?

Mr. TIPTON. In the regular order of witnesses. I think the order has been arranged by the committee, if I understand it correctly. I know there was given to me a certain order of witnesses, and I know where my place is in that order, and I shall be available when my turn comes.

Senator JOHNSON of California. I shall be very glad to defer my examination until you are prepared.

Mr. TIPTON. Thank you, sir.

Senator JOHNSON of California. I am instructed to call John R. Riter, hydraulic engineer, Bureau of Reclamation.

STATEMENT OF JOHN R. RITER, HYDRAULIC ENGINEER, BUREAU OF RECLAMATION

Mr. RITER. My name is John R. Riter. I am an employee of the Bureau of Reclamation and have been so employed since April 28 in the capacity of hydraulic engineer. My present position is Acting Director of the Branch of Project Planning.

Senator JOHNSON of California. Did you ever favor the construction of Boulder Dam?

Mr. RITER. Senator Johnson, the legislation leading to the construction of Boulder Dam was actively being debated before Congress before I joined the Bureau. One of the first jobs I had when I came with the Bureau was to engage in water-supply studies to determine the amount of flow that would be available at that dam. I am in favor of it, naturally.

Senator JOHNSON of California. In favor of the construction?

Mr. RITER. Yes, sir.

Senator JOHNSON of California. Have you seen it?

Mr. RITER. Yes, sir.

Senator JOHNSON of California. It looks pretty good on paper?

Mr. RITER. Yes, sir.

Senator JOHNSON of California. Did it meet with your approval?

Mr. RITER. Understand me, Senator. I had no connection with the actual construction of it. I would say it meets with my approval from the standpoint of a hydraulic engineer; yes, sir.

Senator JOHNSON of California. You are appearing, then, in relation to some other matter?

Mr. RITER. The chairman requested that I give testimony regarding the return flow that would be available in the Colorado River below Imperial Dam, and that is the only subject on which I am prepared to testify today.

Senator McFARLAND. I think, Mr. Chairman, it would be well if Mr. Riter would first give us whatever statement he might have to give, and then we might want to ask him some questions.

Senator JOHNSON of California. Do you have a written statement?

Mr. RITER. I have just notes from which I can speak.

Senator JOHNSON of California. I have no objection to it, but I want to be at liberty to cross-examine you if I think any portion of your statement should be cross-examined.

Mr. RITER. All right, sir.

The chairman requested me to give testimony concerning future return flow to the Colorado River below Imperial Dam.

Senator JOHNSON of California. By the way, have you changed your view in relation to Boulder Dam in the meantime?

Mr. RITER. No, sir. I am here merely to give factual information.

Senator JOHNSON of California. Not to be for or against it?

Mr. RITER. That is right.

Senator JOHNSON of California. At one time you had a fund for Boulder Dam; did you not?

Mr. RITER. Yes, sir.

Senator JOHNSON of California. Go ahead with your statement.

Mr. RITER. The Imperial Dam, located on the Colorado River 15 miles upstream from Yuma, Ariz., is the lowest point of diversion for use for the United States. Below this point the river now receives return flow from the Yuma project, seepage losses from the Imperial Dam to the Pilot Knob portion of the All-American Canal and, occasionally, floodwaters from the Gila River.

To determine the future return flow it is necessary to make assumptions regarding the future development in that part of Arizona which will drain into the Colorado River below the Imperial Dam.

I will first discuss return flow from the Yuma project. This project embraces 15,000 acres in southeastern California and 52,000 acres in southwestern Arizona. It is one of the old projects of the Bureau of Reclamation. The first water was delivered in the year 1907. Water was originally diverted from Laguna Dam, which is also on the Colorado River, 10 miles northeast of Yuma. It was carried in a canal along the California side of the river to serve the lands located in that State, and at Yuma there is a siphon which carries water across the river to serve the lands on the Arizona side.

Since August 1941, the water for the Yuma project is being diverted at Imperial Dam, which is located 5 miles above the old Laguna Dam, and its service is through the All-American Canal which has replaced a portion of the Yuma main canal.

The CHAIRMAN. Let me interrupt you right there. The All-American Canal takes the place of the Imperial Canal for a certain distance now; does it not?

Mr. RITER. The All-American Canal was constructed primarily to serve lands in the Imperial Valley in California.

The CHAIRMAN. All right. There was prior to that the Imperial irrigation project which tapped the river a little lower down?

Mr. RITER. Yes, sir.

The CHAIRMAN. Did the All-American Canal displace that portion of the Imperial Canal below the present site of the All-American Canal?

Mr. RITER. Yes, sir.

The CHAIRMAN. Who built the All-American Canal?

Mr. RITER. The Bureau of Reclamation, through an appropriation made by Congress.

The CHAIRMAN. All right.

Senator JOHNSON of California. What does it feed?

Mr. RITER. It serves lands in the Imperial and Coachella Valleys in California. However, in the process of building, in the upper reaches of the canal, it was more convenient to have that canal also carrying water for the Yuma project. So for that reason, when the canal was constructed, the upper 15 miles of the canal was made 2,000 second-feet larger than the needs by the Imperial district, in order that the Yuma project water could be carried in that canal instead of in the old Yuma Canal.

Senator JOHNSON of California. Is any part of it situated in Mexico?

Mr. RITER. No, sir; it is located entirely within the United States.

The CHAIRMAN. Is it siphoned across the river to serve the Yuma project?

Mr. RITER. Yes, sir. Water is taken out of the river to serve the Yuma project.

At the present time the annual diversion of water from the river for the Yuma project is 1,400,000 acre-feet. One million acre-feet of this water is used for power production at the Siphon Drop plant, but that is entirely returned to the river. Four hundred thousand acre-feet are diverted for irrigation purposes, and of that amount 200,000 acre-feet are applied to the land and the remaining 200,000 acre-feet returns as waste or return flow through the drains.

In the future it is our belief that when the demands for water in the United States become more acute there will be no water permitted to be wasted from the Colorado River for power production. We now estimate that in the future the diversion for the Yuma project will be 370,000 acre-feet, of which 235,000 acre-feet will be consumed at the land and 135,000 acre-feet will be returned to the river as return flow.

Senator McFARLAND. That is, the Yuma project?

Mr. RITER. Yes, sir.

Senator McFARLAND. How many acre-feet did you say?

Mr. RITER. A return flow of 135,000 acre-feet.

Senator MURDOCK. It will be below any point in the United States where it could be diverted again for beneficial use?

Mr. RITER. It will be below the Imperial Dam. There might be a possibility that some of that water could be recovered by pumping. I think the previous witness stated that.

Senator MURDOCK. Excluding the possibility of pumping, is it below any point where it may be rediverted for beneficial use in the United States?

Mr. RITER. Yes, sir.

The next project I wish to discuss is the Gila project, which is located in southwestern Arizona. Construction was initiated on this project in 1936. Originally the project contemplated an area of 585,000 acres, with water to be diverted from the east side of the Imperial Dam through a gravity canal which would be 21 miles long and have an initial capacity of 6,000 second-feet. From the gravity canal 15,000 acres could be served direct. The bulk of the project area, however, would need to be served by pumping from the gravity canal. At the present time we are constructing the canal to an initial capacity of 2,200 second-feet.

As I stated before, we have to make certain assumptions to arrive at what the future development would be. If the entire Gila project should be irrigated, the entire 585,000 acres, there would be no water left for Arizona to use in the Phoenix Valley, and we believe, therefore, that Arizona will elect to use part of her water supply on the Gila project and part of it in central Arizona. It is, therefore, assumed that the Gila project will be developed to the extent of 160,000 acres. Of this 160,000 acres there are now 8,000 acres in the north and south Gila Valleys which are irrigated. The north Gila Valley is irrigated by gravity diversion from the Colorado River. The lands in the south Gila Valley are irrigated by recovery of ground waters, by pumping.

In the Mohawk area there was at one time 20,000 acres irrigated. These lands were irrigated by diverting the floodwaters from the Gila River, which are erratic in occurrence, and only partly irrigated by recovery of ground waters. In 1943 the area irrigated in the Mohawk Valley was only 8,000 acres.

Senator McFARLAND. Right there, Mr. Riter: You mean by recovery of ground water, pumping?

Mr. RITER. Yes, sir.

Senator McFARLAND. That is water that is 12,000 parts per million?

Mr. RITER. Yes, sir.

Senator McFARLAND. And one of the reasons why that acreage has decreased is on account of the quality of the water?

Mr. RITER. Yes, sir. That is the situation.

Senator McFARLAND. Very well.

Mr. RITER. The total area of 160,000 acres, which we assume will be irrigated in the Gila project, will require a diversion of 960,000 acre-feet per year from the Colorado River. Of that 960,000 acre-feet the consumptive use would be 560,000 acre-feet, and the return flow which will enter the Colorado River will be 400,000 acre-feet. This return flow will very largely initially enter the Gila River and return to the Colorado River through the Gila.

The Gila River empties into the Colorado River near Yuma, and some of the return flow of the Yuma mesa just immediately west of the Yuma project, and whose lands are quite sandy, will percolate down into the Colorado River direct, not through the Gila.

The next project to be discussed is the central Arizona project, which is located in the Phoenix basin.

Senator McFARLAND. Before you get to that, how much did you estimate would be return flow from the other projects?

Mr. RITER. 135,000 acre-feet from the Yuma, and 400,000 acre-feet from the Gila.

Senator McFARLAND. That is a total of how much?

Mr. RITER. That is 535,000 acre-feet.

Senator McFARLAND. All right. Now, from that water you estimate that none of it can be reused except by pumping it in the All-American Canal?

Mr. RITER. Well, I would not restrict it exactly to the All-American Canal. It might be possible that some of it might be pumped into the Yuma project canal.

Senator McFARLAND. That would be a very small amount?

Mr. RITER. It would have to be pumped in any event.

Senator McFARLAND. Of course as you get on down, the possibilities for pumping are reduced because you haven't any land left to pump to at the end of the project?

Mr. RITER. That is right. The Bureau of Reclamation in cooperation with the State of Arizona is now investigating the possibilities of bringing water from the Colorado River to serve the central Arizona area. There is now irrigated in that area in excess of 500,000 acres of land. These lands are being irrigated from the Gila River and its principal tributaries, the principal tributaries of which are the Salt River and the Verde River. The Verde is a tributary of the Salt River. The flows of these streams are very erratic, and, to facilitate the irrigation development, reservoirs have been constructed.

One of the early projects undertaken by the Bureau of Reclamation was to build the Roosevelt Reservoir on the Salt River. The present capacity of that reservoir is 1,400,000 acre-feet. On the Gila River, the Indian Irrigation Service have constructed the Coolidge Reservoir with a capacity of 1,250,000 acre-feet, to control the flows of that stream, and the Verde River is being controlled by the Bartlett Reservoir, which has a capacity of 182,000 acre-feet. There are other reservoirs built on the Salt River. There is the Horse Mesa, with a capacity of 245,000 acre-feet; the Mormon Flat, with a capacity of 58,000 acre-feet; and the Stewart Mountain, with a capacity of 70,000 acre-feet. These reservoirs were built by the Salt River Valley Water Users Association, and construction is now under way for an additional reservoir at the Horseshoe site, which will have a capacity of 60,000 acre-feet. In addition to the surface reservoirs, the irrigation plan also utilizes a vast quantity of underground storage. At the present time there is a serious problem of the quality of water used for irrigation, especially at the lower end of that project. I have examined records of water samples from wells throughout the area and I find that at the upper end the salinity of the water is 300 parts per million. For practical purposes, that is fresh water. However, as we progress downstream the water becomes progressively more saline.

Senator McFARLAND. Now, you are talking about the underground supply?

Mr. RITER. I am talking, Senator, about these. These are the wells, in the underground reservoir; yes.

Senator McFARLAND. Of course, that would be true of the others, too?

Mr. RITER. Yes, sir; because that reflects the mingling of waters from all sources. In the extreme lower end there are some wells that have as high as 7,500 parts per million of salts. The low flow dis-

charged at Gillespie Dam, which is located at the lower end of the Phoenix area, has a salinity concentration of 6,000 parts per million.

Senator McFARLAND. Now, are you talking about the water in the river?

Mr. RITER. The water in the river.

Senator McFARLAND. The water in the river?

Mr. RITER. As it goes over the dam. That is where the samples were selected.

Senator McFARLAND. That is 6,000 parts?

Mr. RITER. 6,000 parts per million; yes, sir.

Now, there was considerable discussion this morning with a previous witness regarding the amount of return flow from the central area. It is my firm conviction that there will be return flow from that area if it is to be on a permanent agricultural base. We assume that there will be an annual diversion into the central Arizona area from the Colorado River of 1,330,000 acre-feet.

Senator DOWNEY. What was the first part of that statement?

Mr. RITER. I merely remarked, Senator, about this morning, with a previous witness there was considerable debate regarding the amount of return flow from the central Arizona area. Now it is my firm conviction that there will be some return flow from that area. And then the next statement was, sir, that in making this study I assume that there will be a diversion of 1,330,000 acre-feet from the Colorado River to the central Arizona area, and of this amount there will return to the Colorado River as return flow an annual quantity of 330,000 acre-feet.

Senator McFARLAND. Your figure is lower, then, than Mr. Tipton's?

Mr. RITER. No, Senator, these are the figures that were arrived at at a conference in El Paso last month.

Senator McFARLAND. I believe you took a smaller amount of water to be diverted, though—1,330,000, and he used 1,500,000?

Mr. RITER. Senator, as I understood Mr. Tipton's testimony, he made studies on a number of alternate bases.

Senator McFARLAND. Yes. Very well. We will not refer to his testimony. It does not matter any way. Let us go ahead.

Mr. RITER. In this particular one I am referring to the studies that underlie the testimony of the Boundary Commission on the return flow.

Senator McFARLAND. All right.

Mr. RITER. That will leave then, if we subtract those two figures, a figure of 1,000,000 acre-feet as the amount of water that will be consumed in Arizona from the diversion from the Colorado River to the central project.

Senator McFARLAND. Very well; go ahead.

Mr. RITER. Now, there was another factor discussed in this return flow and these seepage losses from the All-American Canal. This canal was constructed to serve lands in the Imperial and Coachella Valleys in California, and it diverts from the western end of the Imperial Dam 15 miles upstream from Yuma. The initial capacity of the canal was 15—

The CHAIRMAN. Wait a minute. It is not above Yuma?

Mr. RITER. Yes, sir. The All-American Canal heads in the Colorado River 15 miles upstream from Yuma.

The CHAIRMAN. All right.

Mr. RITER. I think, Senator, you have in mind the canal below Yuma, as the old canal that used to be.

The CHAIRMAN. The old dam below Yuma.

Mr. RITER. The old dam that used to serve the Imperial Valley, but that has been replaced by this All-American Canal, which was placed in operation in 1941. The initial capacity of this canal is 15,155 second-feet. 2,000 second-feet of this capacity is to carry water for the Yuma project, and that extends for 15 miles. For the next 6 miles on, the capacity is 13,155 second-feet, which capacity is maintained to a point called Pilot Knob. At Pilot Knob the canal runs west for 59 miles into Imperial Valley. The capacity west of Pilot Knob is 10,155 second-feet. At this point I would like to mention that 155 second-feet of capacity was constructed in the All-American Canal at the request of the city and county of San Diego.

The bottom width of the canal is 160 feet. That is at the head end, and it will have, when running full, a water depth of 21 feet. Now, we estimate that there will be a seepage loss of 65,000 acre-feet per year from this 21 miles of canal between the head of Pilot Knob, which will return to the Colorado River.

Senator McFARLAND. How much less, Mr. Riter.

Mr. RITER. 65,000 acre-feet per year.

Senator McFARLAND. Thank you.

Mr. RITER. Then, in summary, the quantities of return flow are as follows: From the Yuma project, 135,000 acre-feet; from the Gila project, 400,000 acre-feet; from central Arizona, 330,000 acre-feet, and seepage losses from the All-American Canal, 65,000 acre-feet; and that results in a total return flow of 930,000 acre-feet.

Now, the previous witness—

Senator MURDOCK. May I ask a question, there?

Mr. RITER. Yes, sir.

Senator MURDOCK. Was that return flow of 930,000 all below a point in the United States where it could be rediverted except by pumping?

Mr. RITER. Yes, sir.

The CHAIRMAN. May I ask you a question?

Mr. RITER. Yes, sir.

The CHAIRMAN. This All-American Canal hooks up with the old Imperial Valley Canal, does it not?

Mr. RITER. No, sir; it is an entirely new canal into the Imperial Valley.

The CHAIRMAN. It is entirely new?

Mr. RITER. Entirely new.

The CHAIRMAN. Is there any charge for the water that is used from that canal by anybody?

Mr. RITER. Yes, the United States has a contract with the Imperial irrigation district to pay for the cost of building that canal. I think that we also have one with the Coachella Valley to pay for the cost.

The CHAIRMAN. What became of the old Imperial Dam?

Mr. RITER. That was the property of the Imperial irrigation district. I do not know what disposition they propose to make of it.

The CHAIRMAN. Do they use it?

Mr. RITER. It is my understanding that the old Imperial canal is used—that is, the old Alamo canal is used, to serve lands in Mexico.

The CHAIRMAN. Is that the land on which that company paid a certain percentage for delivering water to Mexico?

Mr. RITER. I do not know what the financial arrangement was.

The CHAIRMAN. Who does know? You do not know?

Mr. RITER. I am sorry; I do not know.

The CHAIRMAN. All right, go ahead.

Mr. RITER. Now, that concludes my testimony so far as return flow is concerned.

Senator McFARLAND. I would like to ask a few questions, if you have concluded.

The CHAIRMAN. Just a moment. Do you care to go on generally, or do you want to confine it at the present time to the return flow?

Mr. RITER. I prefer to confine it at the present time to just the return flow.

The CHAIRMAN. All right; we will confine it then.

Mr. RITER. All right. Thank you.

The CHAIRMAN. Go ahead, Senator.

Senator McFARLAND. Now, Mr. Riter, as to this 330,000 acre-feet that you estimate would be return flow from water used in the central part of Arizona, there is one thing that has bothered me about that. I do not want to go over this same field that I went over with Mr. Tipton, in detail; I do not see any use in it; but of course it may well be to the advantage of Arizona to allow this water to run on down to the Colorado River, and take credit for it, because it is subtracting from the consumptive use; but how much loss? It is the loss from Gila Bend to the Colorado River. That is a sandy country, is it not?

Mr. RITER. Yes, sir.

Senator McFARLAND. And would there not be a great deal of loss? Would it get down there—that is the next question—assuming that Arizona lets it go down we will say from Gillespie Dam? What would be the loss? Do you know the loss in water going down?

Mr. RITER. We have made various estimates on that. On that particular quantity we have estimated that 330,000 is the water that will reach the Colorado River.

Senator McFARLAND. How much water would have to, we will say, return? Assuming that the Gillespie lands, or lands in that vicinity, were some of the last to be irrigated with that water; it may be they would not be, but assuming that they were, what would be the loss from there on down to the Colorado River? Would it not be quite a bit?

Mr. RITER. Yes; it is our estimate that that will amount to something over 110,000 acre-feet.

Senator McFARLAND. You state that the records show that the water diverted for the Gillespie project is 6,000 parts per 1,000,000 salt content?

Mr. RITER. That is the water that goes over Gillespie Dam. I think it only fair to assume that the water above the dam and the water below is the same quality; yes, sir.

Senator McFARLAND. The water that goes from the dam?

Mr. RITER. Yes, sir; that is where the sample was collected, water discharging from Gillespie Dam.

Senator McFARLAND. They do not like very much to go over it, if they can help it.

Mr. RITER. That is right.

Senator McFARLAND. They try to divert it, and, unless there is a flood, it does not go over it?

Mr. RITER. That is right.

Senator McFARLAND. They are irrigating there, and making especially good alfalfa crops with that water, are they not?

Mr. RITER. Senator, you have the advantage of me. You are intimately familiar with that country, and I am sorry to say that I cannot testify from personal knowledge that the crops in that particular country are what you would term "good."

Senator McFARLAND. I do not want to get into that phase of the discussion, but what I am getting at is this: If this water would go into the ground, and would not get on down to the Colorado River, there would be someone that would be taking it out, even though it did have a high salt content, would there not?

Mr. RITER. Well, it might be possible.

Senator McFARLAND. I am just basing it upon past experiences in Arizona. We grab water. If it looks like water, we take it out and use it. That is a fact, is it not, when you are taking out water, and when we are pumping water that tests even 12,000 parts per 1,000,000?

The CHAIRMAN. I thought your assumption was, though, that the water would be soaked up by this sandy soil?

Senator McFARLAND. Well, my theory of it, Mr. Chairman, is this: That it may well be that Arizona will want this water to go on down to the river, because it will not be charged against her—she will get credit for it in consumptive use—but if it would not get down there, she would not let it go on down that way, if there is too high a percentage of it.

The CHAIRMAN. If it does not get down there, she is at liberty to do what she pleases with it, of course.

Senator McFARLAND. Well, she would be at liberty to do what she pleased with it, anyway.

Mr. RITER. Senator, I do not know whether this is the question you have in mind, but the Gila is a broad, sandy stream.

Senator McFARLAND. That is right.

Mr. RITER. And there are growing along it quite a number of water-consuming plants.

Senator McFARLAND. I know.

Mr. RITER. Plants which are heavy users of water. Now, in other areas where they have a similar proposition, they have channelized the stream, made a small channel, confined it to a small channel. Bear in mind, we are looking ahead 40 or 50 years, maybe. I assume at that time if this water is so valuable for irrigation that in order to reduce the losses it will logically follow that that stream would be channelized, that there would be a small channel, which would reduce the amount of losses; and I have assumed that that condition would occur. That is the reason that I can tell you that the loss is only about 110,000 acre-feet. That is quite a material percent.

Senator McFARLAND. If that were not done, what would the loss be?

Mr. RITER. Well, on the basis of past records, my estimate would be that it might be twice that amount.

Senator McFARLAND. I am only trying to break down the real picture.

Mr. RITER. I understand.

Senator McFARLAND. And as to whether it would be profitable for the return flow to be allowed to go on down to the river, even if it got into the question of the quality of the water—I mean of the water lost between the Gillespie Dam and the river.

Mr. RITER. I understand.

Senator McFARLAND. In making your estimates, you made them on the basis of the past records of the loss of water?

Mr. RITER. You mean from the amount of water that would be consumed?

Senator McFARLAND. Yes, the amount of loss in water going from Gillespie, we will say, down to the Colorado River.

Mr. RITER. No; we assumed it would be less than what the past records show.

Senator McFARLAND. On account of the underground water level being kept up to a more even level; is that it?

Mr. RITER. Well, the principal item we had in mind, Senator, was that ultimately a small channel would be cut through the Gila to confine the water to a small channel instead of letting it spread out over this entire sandy bottom.

Senator McFARLAND. I think, Mr. Chairman, I do not see any use in going over the same field that I went over with the other witness. Your answers would be practically the same?

Mr. RITER. Yes. I might state that at the request of the Boundary Commission, they asked us to jointly work this out with their engineers, and I believe Mr. Lowry and Mr. Ainsworth both testified that this meeting was held at El Paso, on December 18, 1944. We worked these figures out, and the figures that I have presented today are the same figures of return flow that Mr. Lowry testified to in his testimony. He did not have the details.

Senator McFARLAND. And you do not think, Mr. Riter, that this water that would reach the Colorado River would be any poorer water in quality than that that is going from the Gillespie Dam at this time, do you?

Mr. RITER. No, sir; no.

Senator McFARLAND. I mean the water which you tested, using the water going over the dam.

Mr. RITER. No, sir. I do not recall what the previous witness testified, but I estimate that the composition of all the return flow out of this 930,000 acre-feet would be about 2,700 parts per 1,000,000.

The CHAIRMAN. You represent the Reclamation Service? You are from the Reclamation Service?

Mr. RITER. Yes, sir.

Senator MURDOCK. Mr. Chairman, may I ask a question?

Senator McFARLAND. If I might just finish.

Senator MURDOCK. Yes. I defer to the Senator from Arizona.

Senator McFARLAND. That is 2,700 parts per 1,000,000?

Mr. RITER. Yes, sir.

Senator McFARLAND. For what amount of water?

Mr. RITER. That is for 930,000 acre-feet.

Senator McFARLAND. Then when you add to that the remainder of 570,000 acre-feet, to make the 1,500,000 acre-feet of water, you get a pretty good quality of water, do you not?

Mr. RITER. Yes, sir.

Senator McFARLAND. And one that Mexico would not and could not complain of?

Mr. RITER. Well, I do not know whether she could complain or not, but it would be usable water.

Senator McFARLAND. Well, it is much better than we are using in a great many arid parts of Arizona?

Mr. RITER. It would be much better than the 6,000 parts per 1,000,000 water that is now being used at Gillespie Dam.

Senator McFARLAND. Yes; and it would be even much better than the 3,000 parts?

Mr. RITER. Yes.

Senator McFARLAND. And the part that is being pumped, and which is being used every day?

Mr. RITER. Yes, sir.

Senator McFARLAND. I believe that is all the questions I have.

The CHAIRMAN. Senator Murdock.

Senator MURDOCK. Mr. Riter, you are familiar with the Colorado River compact, I am sure.

Mr. RITER. Yes, sir. I have read it.

Senator MURDOCK. You are familiar with the language of the compact, which says that the two basins shall each have the beneficial consumptive use of 7,500,000 acre-feet of water?

Mr. RITER. Yes, sir.

Senator MURDOCK. And that in the lower basin they can add to that the 1,000,000 acre-feet?

Mr. RITER. Yes, sir.

Senator MURDOCK. As a hydraulic engineer, if in the lower basin they divert 8,500,000 acre-feet of water annually, and return to the stream below any point in the United States where it may be rediverted, the 930,000 acre-feet that you speak of, to all intents and purposes, Mr. Riter, would not that 930,000 acre-feet be charged as having been consumed by the lower basin?

Mr. RITER. Senator, I am sorry, but I am not in position to interpret the compact in that regard.

Senator MURDOCK. I mean from an engineering standpoint.

Mr. RITER. No.

Senator MURDOCK. Now, what would you say as to that?

Mr. RITER. But as I remember your question, you said, "from an engineering standpoint, would it not be charged." Now, just the minute you bring in that word "charged" I think you are leading me off into a legal phase on which I am not competent.

Senator MURDOCK. No, I do not want to lead you off anywhere. I want to find out as an engineer what your position would be as to whether or not the lower basin had consumed the 8,500,000 acre-feet of water, as they are entitled to do under the compact, or whether the 930,000 acre-feet of return flow below any point in the United States where it could be rediverted is to be charged against that 8,500,000.

Mr. RITER. Well, an engineer cannot give opinions on what can be charged unless he has legal advice on whether that is a proper charge. From an engineering viewpoint the consumptive use as we ordinarily think of consumptive use, which is the amount of water you divert

minus the amount of water you return, the consumptive use technically would be 7,570,000 acre-feet, but this other matter as to what should be charged, whether the lower basin would be charged with the 8,500,000 acre-feet, or the 7,570,000 acre-feet, is a question on which I have to beg off because I do not feel myself competent to pass on it. That involves legal interpretations of the compact, and I am sorry, but I cannot give you that.

Senator MURDOCK. Do you know whether or not the attorneys of the Bureau of Reclamation have ever passed on that question?

Mr. RITER. Not to my knowledge.

Senator MURDOCK. As an engineer you would consider it a very important question, would you not, that required looking into?

Mr. RITER. Yes, sir. I do consider it a very important question, and I am very much interested in the final interpretation. You see this is getting a little off the subject, but we in the Bureau of Reclamation are charged with the responsibility of formulating a comprehensive plan for the use of the waters of the Colorado River, and we are handicapped in forming that plan until we get answers to questions such as the one you have propounded. If you will forgive me, sir, may I say that I think that the final answer on that question will have to be resolved by the State. The compact was formulated by the States, and I firmly believe that they will have to make the final answers on the interpretation. Now, I do not know whether that answers you or not, Senator, but I think that is the best answer I can give you at this time.

Senator MURDOCK. If that is the best answer you can give us, very well.

Senator DOWNEY. Mr. Chairman, I have some questions, unless Senator Johnson desires to inquire.

Senator JOHNSON of California. No; go on.

Senator DOWNEY. Without providing for any storage of this return water, Mr. Riter, about how do you think it would percolate back into the river and run down across the boundary, as to the times and quantities?

Mr. RITER. Right offhand, our experience elsewhere has shown, Senator, that it would be possibly 5 percent per month in the wintertime; then in the summertime it would build up so that the bulk of it would follow the irrigation season.

Senator DOWNEY. It would follow the irrigation season, how soon?

Mr. RITER. I thought I had some figures on that, Senator. If you would permit me, I would like to submit those figures. I believe we have an estimate. I do not happen to have them with me today, showing the distribution. I know that you are very much interested in that.

Senator DOWNEY. Well, of course, Mr. Riter, and as a matter of fact, in most of the established irrigation projects of the United States does not the return flow gradually settle down to a pretty constant return flow?

Mr. RITER. No, sir. Our experience has been, sir, that it reaches a minimum just in advance of the irrigation season, or the bulk of the irrigation season, and then there is some lag, possibly a month lag

from the time you start applying water until the time the return flow comes up. On this thing, if I recall the pattern, we estimated the minimum would occur during the months of January and February. The maximum would occur during the months of July and August. It would not be uniform, however. There was some unbalancing.

Senator DOWNEY. Does your plan contemplate the building of any reservoirs to control this return flow, so that it can be fed down to Mexico at the times most advantageous to us?

Mr. RITER. Senator, when we speak of our plan, I believe the testimony of the Boundary Commission is that they contemplate ultimately there will be a flood-control reservoir at Sentinel site, and may I point out that the Sentinel flood-control reservoir is located on the Gila River above the Gila project, and as I understand it, it is the plan that if that flood-control reservoir is to be built, that there will be storage provided in that to regulate the floodwaters of the Gila, and also the return flow from the central Arizona project.

Senator DOWNEY. And how large would that reservoir be in point of area?

Mr. RITER. In point of capacity, there would be about 300,000 acre-feet for regulation, and then the amount of flood-control capacity just strictly to control floods would be in the neighborhood of 1,000,000 acre-feet.

Senator DOWNEY. I asked you about what its area would be.

Mr. RITER. I do not happen to have the information right now on the area of it, sir.

Senator DOWNEY. How much evaporation would you count per month from a reservoir of that kind, per acre?

Mr. RITER. The reservoir would most of the time be very low, and we have estimated that, in the neighborhood of 50,000 acre-feet a year.

Senator DOWNEY. How much evaporation do you figure there would be in terms of feet over any given area, over a 12-month period in Arizona?

Mr. RITER. Down there, I would say it would average about a half a foot per month throughout the year.

Senator DOWNEY. About 6 feet per year?

Mr. RITER. Yes, sir.

Senator DOWNEY. You do not know the area over which you would have to figure that to determine your loss by evaporation?

Mr. RITER. I do not have the exact figure here with me. It can be obtained, however, Senator, and I will be very happy to supply it for the record.

Senator DOWNEY. I wish you would supply us the data on that, if you would, Mr. Riter.

Mr. RITER. Yes, sir.

Senator DOWNEY. The storage capacity of the reservoir, the surface area at different periods as estimated to be. Likewise, would you tell us how much water would be expected to be stored there from floods on the Gila River?

(The information requested is as follows:)

Area capacity table for Sentinel Reservoir site, Gila River, Ariz.

Raise in water (surface-feet)	Area (acres)	Capacity (acre-feet)
0	0	0
25	1,300	16,300
50	11,000	170,000
75	20,200	560,000
100	31,000	1,200,000

Estimated distribution of return flow

Month:	Percent	Month:	Percent
January -----	5	August -----	12
February -----	4	September -----	11
March -----	5	October -----	10
April -----	7	November -----	8
May -----	9	December -----	6
June -----	11		
July -----	12	Total -----	100

Senator MCFARLAND. I believe you gave us that figure, did you not? Senator DOWNEY. I did not hear that.

Mr. RITER. The capacity is in the neighborhood of 1,000,000 acres, but you understand, Senator, the detailed figures on the reservoir have not been determined yet.

Senator MCFARLAND. Either you or Mr. Tipton, one, I believe testified that you estimated the gain—was it 100,000 acre-feet a year, from those floods?

Mr. RITER. Yes; we estimate that by controlling the tag-ends of the Gila floods, it should be remembered that in some years there are no floods. In other years, they will run several hundred thousand acre-feet, maybe as much as a million acre-feet, in some certain years. It is estimated that by the time we deduct losses there will be 100,000 acre-feet of yield from Gila River water.

Senator DOWNEY. Now, Mr. Riter, under the terms of the treaty, to whatever extent there was a return flow available to Mexico in October, November, December, January, and February, in excess of 36,000 acre-feet a month, would it not be chargeable to Mexico under the terms of the treaty, if she did not want it, would it?

Mr. RITER. I understand that is the situation.

Senator DOWNEY. That is correct? So that if as a matter of fact there was 50,000 or 75,000 or 100,000 acre-feet of this return flow that went down in any one of those months, Mexico would get the advantage of that, with a charge against her of only 36,000 acre-feet; that is true, is it not?

Mr. RITER. That is my understanding of the terms of the treaty; yes, sir.

The CHAIRMAN. She would not get it, if we used it, would she?

Mr. RITER. No. But as I understand the Senator's question, it was, if the return flow in any one month were in excess of say 50,000 or

60,000 acre-feet in excess of the minimum, which is the minimum schedule set up in the treaty, that they would not get this. I understand that is your question.

The CHAIRMAN. The point I make is, it would never get into the river to go down to Mexico.

Mr. RITER. No.

The CHAIRMAN. That is, if there were anybody in this country that could and would use it; is that true?

Mr. RITER. That is right.

Senator DOWNEY. Mr. Riter, to make it somewhat plainer, Mexico is compelled under the terms of the treaty to take only 600 second-feet of water a day, in October, November, December, January, and February; is not that true?

Mr. RITER. That is the way I understand the treaty; yes, sir.

Senator DOWNEY. And 600 second-feet a day is 1,200 acre-feet a day?

Mr. RITER. That is right.

Senator DOWNEY. Or 36,000 acre-feet a month?

Mr. RITER. That is right.

Senator DOWNEY. Now, if in some of those months there was actually a return flow in excess of 36,000 acre-feet, then Mexico would get that without having it charged to her?

Mr. RITER. There is another provision of the treaty, Senator. You are probably more familiar with that than I am, but I understand it might be possible to maybe squeeze that up a small amount. There are certain conditions under which we can refrain from giving her water through the All-American Canal, and that she will take, if there is excess winter flow, some of this excess winter flow in lieu of some All-American Canal water, but outside of that minor detail, that minor modification of your question, then I say the answer is "yes."

Senator DOWNEY. Can you refer to the part of the treaty that you have in mind in speaking about that legal modification?

Mr. RITER. I think it is in article 15, there, sir.

Senator DOWNEY. Here is a copy of the treaty. Would you look, and find that, yourself, Mr. Riter?

Mr. RITER. Yes; article 15.

Senator DOWNEY. Read the language you have in mind.

Mr. RITER. This is just a minor modification of the question you put, in article 15 (c) of the treaty. It says this:

The United States shall have the option of delivering at the point on the land boundary mentioned in subparagraph (c) of article 11 any part or all of the water to be delivered at that point under schedule 2 of this article, during the months of January, February, October, November, and December of each year, from any source whatsoever, with the understanding that the total specified annual quantities to be delivered through the All-American Canal shall not be reduced because of the exercise of this option, unless such reduction be requested by the Mexican section, provided that the exercise of this option shall not have the effect of increasing the total amount of scheduled water to be delivered to Mexico.

That is the only provision I had in mind, Senator. That would be a minor quantity, but the same principle that you are talking about would still hold.

Senator DOWNEY. Yes; but, Mr. Riter, does not that condition only come into the picture at the request of the Mexican section?

Mr. RITER. Well, of course, I am not an expert on the treaty, sir, and it is my understanding that that is an option running to the United States.

Senator DOWNEY. Well, it says "unless such reduction be requested by the Mexican section." You just read that language, yourself.

Mr. RITER. Of course, I mean, sir, the reduction in the total annual quantity through the All-American Canal. In other words, as I understand the provisions of that particular article, we could, in order to reduce the amount of water that Mexico could get without charge, have the option of supplying part of the winter demands through the All-American Canal, from water from other sources, as I understand the treaty, sir.

Senator DOWNEY. You agreed with Senator McFarland that this rather highly impregnated water would be improved by intermixing with it some fresh water from the river, did you not?

Mr. RITER. As I recall, Senator McFarland's question was that the average quantity would be improved; yes, sir.

Senator DOWNEY. Now, as a matter of fact, if we were delivering this return flow from Mexico in October, November, January, and February, we probably would not be delivering any fresh water at that time, would we?

Mr. RITER. You are right.

Senator DOWNEY. It would be very difficult for us to hold delivery down, or perhaps impossible, to 36,000 acre-feet, would it not?

Mr. RITER. Our estimates are, Senator—of course, they are estimates—that all of the return flow could be used, would occur at such time that it could be used.

Senator DOWNEY. Yes; I understand that, but would it not be necessary practically in the winter months to work out any arrangement that would at all be satisfactory to us, to give Mexico nothing but return flow?

Mr. RITER. That is my understanding of the intent of the article I just read you; yes, sir. In other words, there would be during those 5 months that you have mentioned, November, December, January, February—

Senator DOWNEY. October.

Mr. RITER. Is it October? Yes. It is my understanding, sir, that the intent of the treaty during those 5 months, so far as practicable, is to give Mexico only the return flow; that is my understanding, sir.

Senator DOWNEY. So, then, that water would not be intermixed with any fresh water?

Mr. RITER. That particular water would not be intermixed; no, sir.

The CHAIRMAN. The river is full of water now, with 9,000,000 acre-feet that goes down there. You are talking about the ultimate condition?

Mr. RITER. The ultimate condition.

The CHAIRMAN. The ultimate utilization of every foot of water within the United States?

Mr. RITER. Yes, sir.

Senator McFARLAND. But that particular water, though, Mr. Riter, that you are testifying in regard to is the water which you said would be 2,700 parts per 1,000,000?

Mr. RITER. That is right.

Senator McFARLAND. Which is usable water?

Mr. RITER. That is usable water.

Senator McFARLAND. And it does not make so much difference, does it, if you do use water with a little higher content of salt, if in the next irrigation you have better water; it washes it on down?

Mr. RITER. Well, it is the average that really counts.

Senator McFARLAND. It is the average that really says how much still is going to be left in it?

Mr. RITER. Yes, sir; that is right.

Senator DOWNEY. But is it not very likely, Mr. Riter, that in the actual carrying out of the Mexican project they might apply all of this water just upon certain crops grown in the wintertime, rather than in the irrigation season?

Mr. RITER. Well, I am not in position to answer that, Senator, because I do not know what Mexico plans to do.

May I state it this way? I was not a party in the negotiations of the treaty, and I have no knowledge as to what Mexico plans to do with the water that she receives. The question was put to me by the Boundary Commission as to the amount of the return flow she would receive and the distribution thereof.

Senator JOHNSON of California. Who has the knowledge of what Mexico wants?

The CHAIRMAN. Mexico, I would say.

Mr. RITER. Well, that is a good answer. Thank you, sir.

Senator JOHNSON of California. Well, let us see if it is a good answer. Would you accept it as a good answer?

Mr. RITER. I would be inclined to answer that, I think that would be a matter which Mexico would decide.

Senator JOHNSON of California. Yes. Well, who knows the Mexican desires?

Mr. RITER. I presume the Mexican people would have to speak for themselves.

Senator JOHNSON of California. The whole Republic?

Mr. RITER. Possibly the engineers who participated in the negotiation of the treaty on behalf of Mexico would have the information.

Senator JOHNSON of California. Now, if we tied it down to the engineers, we could get some place. If the engineers should determine the matter, then we can ascertain it easily, can we not?

Mr. RITER. I think the answer should be "yes" to that question.

Senator JOHNSON of California. That is all.

Senator MURDOCK. Mr. Chairman.

The CHAIRMAN. Senator Murdock.

Senator MURDOCK. Mr. Riter, do you think that the Bureau of Reclamation and other governmental agencies who participated in the negotiation of this treaty have sufficient engineering data on present uses of the Colorado River and contemplated uses of the Colorado River waters within the United States to warrant us at this time in entering into this treaty?

Mr. RITER. Senator, it is my understanding that the Bureau of Reclamation will be given an opportunity to testify.

Senator MURDOCK. Well, you are a member of the Bureau of Reclamation, are you not?

Mr. RITER. Yes, sir.

Senator MURDOCK. I am asking you now as an engineer, on that. If this is not a proper question, and you do not want to answer it, of

course, I will not insist, but I am asking you as an engineer if, in your opinion, the United States has sufficient engineering data on the present uses of the waters of the Colorado River and the contemplated uses of the waters of the Colorado River to warrant the United States at this time in entering into this treaty with Mexico?

Mr. RITER. It is not a question of not wanting to answer your question, Senator; it is a question of not being prepared at this time to answer it. I came down here at the invitation of the chairman to speak only on this one subject of return flow, and without meaning to push you off without an answer, I would like to ask, sir, that your question be deferred until the Bureau has an opportunity to present its case.

Senator MURDOCK. I am perfectly willing to do that. I think that my decision on this treaty will largely rest on the information that comes to me from the Bureau of Reclamation on this very question that I have propounded to you.

Mr. RITER. I appreciate your confidence, Senator.

Senator MURDOCK. It seems there are legal questions that are still to be solved and still to be decided between the upper and lower basin. You have indicated that, this afternoon.

Mr. RITER. Yes.

Senator MURDOCK. And I am sure that that is the case.

Mr. RITER. Yes, sir.

Senator MURDOCK. So that if there are still engineering matters that must be decided and we need more engineering data before we are warranted in entering into this treaty, I want to know. Of course, if you haven't the answer, I am willing to wait until the proper person comes to answer it.

The CHAIRMAN. Mr. Riter, either the joint commission engineers or the reclamation engineers, or both of them, have available all the data in existence, have they not?

Mr. RITER. Their engineers consulted our Bureau, and we gave them all the information that we had available before they negotiated the treaty.

The CHAIRMAN. I say, all the available data in existence are in the possession either of the Bureau or of the engineers of the joint commission, are they not?

Mr. RITER. That is right.

Senator JOHNSON of California. And they have been stated, again and again, have they not?

Mr. RITER. Well, I presume that they will be. If they have not been stated, I presume, sir, that they will be brought out at this hearing.

Senator JOHNSON of California. Well, do you not remember the show that we had down there? Do you not recall? Were you not present?

Mr. RITER. I am sorry, I was not present, sir.

Senator JOHNSON of California. Oh, the President of the United States stated, did he not, what it was?

Mr. RITER. I am sorry, Senator Johnson. I was not present at the celebration of which you speak.

Senator JOHNSON of California. Well, there was a celebration—you knew that, did you not?

Mr. RITER. Yes, sir.

Senator JOHNSON of California. You knew the soldiers were down there in a long line, and you knew that Secretary Ickes and the President of the United States both delivered eloquent orations?

Mr. RITER. Yes, sir.

Senator JOHNSON of California. Do you not think they ought to have given us a fairly decent idea of what was being endeavored to be done?

Mr. RITER. Yes. Senator, it is my understanding that the Bureau of Reclamation will appear at these hearings, and I am sorry that I cannot answer the questions that were put to me, because I am not prepared today to discuss anything except this one subject of return flow. It is my understanding that we will be given an opportunity later on to make a presentation, and I believe that that presentation will give you the information that you are now trying to seek.

Senator JOHNSON of California. Now, by that you mean you take several trials, the Bureau of Reclamation will, and determine from those trials whether or not you have the information?

Mr. RITER. No, sir. We have been conducting investigations for a large number of years on irrigation possibilities in the Colorado River watershed.

Senator JOHNSON of California. Certainly you have. I do not want to detract from it. You have conducted an investigation covering years, that we in the Congress of the United States covered in 8 years in determining what the facts were.

Mr. RITER. Yes, sir.

Senator McFARLAND. Mr. Riter, on this proposition of return flow, you did have all the data that have been collected by the Salt River Valley water users and the users in Arizona, did you not, as to the salt content of the water, and so forth?

Mr. RITER. Well, Senator, there are a large number of records, and I examined them.

Senator McFARLAND. I presume you must have examined most of them, because you gave testimony here as to the salt content of those wells which, according to my recollection, is correct; but it has been several years since I heard it myself.

Mr. RITER. I might say that the records which I examined are in the files of the Geological Survey in this city.

Senator McFARLAND. Yes, I understand that.

Mr. RITER. They secured them from the Salt River Valley Water Users Association and from other irrigators in that valley.

Senator McFARLAND. What I am getting at is this: There could not have been any more data collected than are available at this time in regard to return flow?

Mr. RITER. The only other data we need now, Senator, is the final determination as to whether these assumptions we have made on the areas will be served.

Senator McFARLAND. What I am getting at is that you have made an estimate which you hope will be right according to the collection of other data you could get in regard to it?

Mr. RITER. Yes, sir. We have the best information available to guide our judgment in what these factors will be.

Senator McFARLAND. I asked that question only because it was prompted by Senator Murdock.

The CHAIRMAN. Is that all you have to say, Mr. Riter?

Mr. RITER. Yes.

The CHAIRMAN. What is the wish of California?

Mr. SWING. It now appears, Mr. Chairman, that a very exhaustive, comprehensive study has been going on for years by the Reclamation Bureau, and that they are ready and prepared to present to us what are the reasonable future requirements of American communities for this American water. What we would like to know is when we can have that datum so that we can analyze it and reply to it. They say that they are ready to appear. Do you know?

The CHAIRMAN. They have not told me so.

Mr. SWING. The witness just so testified.

The CHAIRMAN. I did not understand him to say he was ready. He was not ready today.

Mr. SWING. He, no; but the Commissioner, yes.

The CHAIRMAN. Does California want to go on or not?

Mr. SWING. We would like to know what the future requirements of American communities will be.

The CHAIRMAN. Then, we will call the next State, if California does not want to go on.

Mr. SWING. We would very much like to go on after the Reclamation Bureau.

The CHAIRMAN. We are trying to present this in our own way, and we agreed on this program of hearing the States in alphabetical order.

Mr. SWING. We will follow the chairman's instructions.

The CHAIRMAN. I am perfectly willing to give California all reasonable opportunity to be heard. California has more witnesses than all the other States combined.

I would really prefer to let the committee run the hearing rather than have it all mapped out by California and be told when we can put on this witness or put on that witness.

Mr. SWING. We are in your hands. We will do what you tell us to do.

The CHAIRMAN. Do you want to go on now or wait until tomorrow?

Mr. SWING. Well, we would prefer to go on in the morning, since the hour is now 4:30.

The CHAIRMAN. All right. We will meet here in this room tomorrow morning at 10:30.

(At 4:30 p. m. an adjournment was taken until Tuesday, January 30, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

TUESDAY, JANUARY 30, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met pursuant to adjournment, at 10:30 a. m., in room 457 Senate Office Building, Senator Tom Connally, chairman, presiding.

Present: Senators Connally (chairman), Tunnell, Lucas, Johnson of California, Capper, White, Austin, and Wiley.

Also present: Senators Downey, McFarland, and Murdock.

The CHAIRMAN. Let the committee come to order.

Senator Johnson, you may proceed now, if that is your wish. The program as submitted to me by the California people said that you would open the discussion yourself.

Senator JOHNSON of California. Well, I will defer to them. They may proceed in accordance with whatever plan they have.

The CHAIRMAN. All I know is that they handed me a written slip. You may proceed in any way you like. This was submitted to me by the California folks. I supposed they would naturally consult you.

Mr. SWING. Mr. Chairman, the attorney general of California has been requested by Senator Johnson to make the opening statement.

The CHAIRMAN. Very well. How much time will you want, Mr. Attorney General?

Mr. KENNY. I think I can compress my remarks within a period of 25 minutes, perhaps less than that.

The CHAIRMAN. You may proceed.

STATEMENT OF ROBERT W. KENNY, ATTORNEY GENERAL OF THE STATE OF CALIFORNIA

Mr. KENNY. Mr. Chairman and gentlemen, my name is Robert W. Kenny. I am attorney general of California. I have been asked by Senator Johnson to make the opening statement in behalf of our State.

The CHAIRMAN. We are very glad to have you, Mr. Attorney General.

Mr. KENNY. Thank you, Mr. Chairman. I am particularly honored by the fact that Senator Johnson has asked me to make this statement, because I have always felt that if Boulder Dam was to be named for a living person instead of for a place, it should be called the Johnson Dam.

The fight to erect Boulder was a great people's fight. It represented the dream of the pioneering businessman, the home owner, and the

farmer—the dream that this last great water hole would be developed and its energies harnessed for the benefit of the people, not for the benefit of those who would exploit them and the public domain. It was a great people's fight, and it was led by Senator Johnson over many years, just as he has led nearly every other people's fight in our region for more than 40 years.

I agree that it takes some temerity on the part of a one-horse lawyer from out in the West to appear here in opposition to the wishes of the State Department of the greatest Nation in the world; but California elected me to be its lawyer, and the people of this Nation by their Constitution and its practices have erected this great tribunal, the Foreign Relations Committee of the United States Senate, as a court or a forum to which an aggrieved citizen or an aggrieved State might appeal.

I may say that this is the first time, here today, that California has had a chance to state its whole case publicly and openly, so that you gentlemen in the committee, and the whole country as well, will have an opportunity to decide whether or not this is a treaty conceived in the national interest.

It is my personal belief that this treaty has been carefully worked out and studied insofar as it affects the Rio Grande. I can say that California sincerely hopes that that portion of the treaty will ultimately come into effect. I only wish that I could be equally as complimentary as to the skill and fairness of our State Department in effecting an apportionment of the waters of the Colorado River. It is with great personal reluctance that I must condemn that portion of the treaty.

Some of the gentlemen on this committee who were with me in Chicago a few months ago—last summer—will recall that at that convention, as chairman of the delegation from California, I was the man who cast that State's 56 votes for President Roosevelt. I am, therefore, most jealous of the reputation of this administration as a good treaty maker. In the critical months and years to come, the hopes of this Nation and of the world will hang upon the skill and wisdom of our country's treaty makers.

Therefore, my remarks today are not only addressed to this honorable committee—this great tribunal that has been set up between the individual State and the general Government—but I am also taking this means of appealing to the Secretary of State and to the President to withdraw this treaty promptly for further study or to consent to revisions which will make the treaty consistent both with the national interest and with a really durable good-neighbor policy.

As this treaty is now drawn, I am forced to accuse our State Department of the sin of vicarious generosity. Vicarious generosity, gentlemen, as I think you well know, is the practice of profligate liberality with somebody else's wealth. It is not skillful treaty making to take away forever the waters for which progressive American communities have so recently and successfully fought a great people's battle. It is not a wise statesmanship that would take those dearly bought waters and give them to a foreign power. Despite the declarations of certain witnesses from other States in the Colorado Basin, this course of conduct, expensive as it is to American thrift and to our natural wealth, will never succeed in purchasing tranquillity on our two great southwestern rivers.

Oliver Wendell Holmes, you will recall, said, "A river is not only an amenity; it is a treasure."

Our witnesses will show to the committee, I am confident, that the State Department's vicarious generosity with our treasure will not buy permanent good will on either side of the international boundary. These hearings are the first opportunity in many years that the American people have had to witness the inside workings of our treaty-making processes. Now that it is out in the open, before you gentlemen, I do not think that this treaty can stand the light of day. I am still hopeful that the State Department, in the interest of its own lasting reputation, can be persuaded by the testimony of our witnesses to withdraw the treaty promptly and to go to work in obtaining a new agreement that both the United States and Mexico can unanimously support.

As I said, I am appearing as a representative of the State of California, in behalf of its 8,000,000 inhabitants.

The State of California is opposed to the treaty under consideration. Its opposition—and I want to stress this at the outset—is based not on narrow self-interest but on broad national and international grounds. The State considers the treaty inequitable in law and contrary to the best interests of all parties concerned—the people of Mexico as well as the people of the United States.

It is not my intention to go into the complicated technical and legal aspects of the matter before you. There will be other witnesses from California who will cover those matters in detail in appearances subsequent to mine. I shall confine my brief remarks to an exposition of what I consider to be the basic considerations which the committee must pass upon.

The members of this committee are aware, I am sure, of the very fundamental questions, both legal and economic, implicit in the provisions of this treaty. I need not, I am certain, spend any appreciable amount of the committee's time on this. Approval of the treaty in its present form would, I think it is obvious, have profound and far-reaching economic effects. These effects, I submit, would not in the long run be beneficial to the peoples living on either side of the border.

At a later point in my testimony, I intend to discuss the purely legal phases of the treaty as they affect the interests of this State. At this point, however, I should like to speak as a private citizen with a deep concern for the economic well-being of my fellow citizens of the United States. I should, within the limits of my understanding of such matters, like to discuss the relationship of the provisions of this treaty to the economic health of the people affected, irrespective of nationality.

The members of this committee share with me, I am sure, a basic optimism about the future prosperity of our great Nation. Because of their special interest in foreign affairs, I need hardly point out that, to be lasting, prosperity cannot be merely national. We cannot have rich nations prosperous at the expense of their poor neighbors. "Haves" and "have nots," we have learned, breed wars. In the waging of global war, we have come to realize the interdependence and indivisibility of the economies of all the United Nations. We have, in short, gone a long way in understanding how to do our economic house-keeping on an international scale. We will, I trust, continue to think

and act in those terms, because I am firmly convinced that that way is the only sensible and possible way to attain lasting peace and continued prosperity.

We have learned something else in the wartime integration of the economies of the United Nations. The generals call it logistics; the industrial engineers call it efficiency. I call it good horse sense. What it adds up to, as I see it, is determining what the most productive utilization of natural resources, manufacturing capacity, transportation, and manpower will be, without regard for special, group, regional, or national interests. The only yardstick to be applied is whether or not the project is the best, the most logical, and the most economical way of getting the job done. That method, I believe, ought to be used in international post-war arrangements. The proposed Mexican water treaty is, I believe, a good case in point. It is not, as I see it, the most logical way of achieving the maximum utilization of resources; either will it result in the optimum result in terms of economic benefits. To put it another way, under this treaty Mexico will gain very little; the United States will lose much.

I should like to say a little more on this aspect of the matter in somewhat more concrete terms. The United States area that is served by the waters of the Colorado and its tributaries is a vast, highly important area economically. Thousands of farms and factories within the States of California, Nevada, and Arizona depend heavily on the water of the Colorado and its tributaries for their continued operation. I think it can fairly be said that the best measure of the prosperity of the region can be forecast by the level of stored water in Boulder Dam. If water is scarce, jobs will be scarce. The provisions of this treaty as presently constituted will unquestionably make water scarce in the area, particularly in southern California and Arizona. It will, I am convinced, put a ceiling on that region's ability in the post-war period to provide its portion of our national goal of full employment.

In making these assertions, I want it clearly understood that I am not advocating taking California's post-war prosperity out of Mexico's hide. That portion of Mexico within the reach of the waters of the Colorado and its tributaries has a legitimate right to its fair share. More than that, the expansion and strengthening of Mexico's post-war economy is, I recognize, important to the prosperity of this country. This country should give Mexico the requisite technical and financial assistance for the attainment of these purposes. The allocation of a minimum of 1,500,000 acre-feet of water to serve a limited area of Mexico is not, I am convinced, vital to the attainment of these objectives.

Just to give you gentlemen on the committee an idea of what 1,500,000 acre-feet of water is, the 7,500,000 people in Greater New York and the 2,000,000 people in Philadelphia are given their annual requirements for industrial and domestic water with less than 1,500,000 acre-feet. In other words, what we would give to Mexico would serve more than 10,000,000 people in this country for their industrial and domestic requirements.

The contemplated use of the diverted water, which is—and this is, I think, particularly important—the expansion of cotton acreage in Mexico, will not I am certain, do much, if anything, to raise significantly the general level of the Mexican economy. On the contrary, in

the light of post-war cotton market prospects, I believe it might very well become a liability to Mexico rather than an asset in her economy. I might say, though, at this time that the allocation to Mexico of the amount of water contemplated by this treaty will without question be a boon to a small group of international financiers who have interests in that area.

It is my honest hope that this committee will give weight to the probable economic results of the treaty in its present form. I trust that in their deliberations they will apply the management engineer's measure and that they will weigh the alternative economic benefits, both Mexican and American, before acting.

I think a most cursory examination of the economies to be served by the waters of the Colorado makes clear that under this treaty the most efficient utilization of those waters is not being made.

I think it regrettable that the negotiators of this treaty have paid so little attention to the economic aspects of the treaty, and I trust that, in further consideration of it, weight will be given to those matters.

The area on the American side of the international boundary is, I need hardly point out, the center of a vast agricultural empire and a war-created industrial production center. The enterprises of the area support some 3,500,000 persons. Aside from the agricultural enterprise of southern California and Arizona, there has developed in the region, under the impetus of the war, a sizable complex of industrial activity. It is the intention of the people of the area, both industry and labor, to maintain in the post-war period their newly created industrialization. An adequate supply of water cannot be divorced from this objective. In the post-war period, if we are to maintain high levels of employment, a guaranteed adequate source of water for industrial purposes, as well as agricultural, is essential.

On the other hand, the Mexican area to be served by the diversion of the Colorado in the amount specified in the treaty will serve an extremely limited area in terms of opportunities for economic development. The area is sparsely settled, without opportunity for industrial enterprises, and with very limited opportunities for diversified agricultural production. As I indicated earlier in my statement, the provision of 1,500,000 acre-feet of water per year to Mexico will not in any fundamental way serve to create any appreciable national wealth for the people of Mexico. It will serve only to make possible the expansion of crop acreage in a limited range of agricultural commodities far from Mexico's consuming centers.

It will be revealing to this committee when I tell you that about 75 percent of the total agricultural economy of the Mexican area to be served by this treaty is devoted to cotton cultivation. It will be even more revealing when I tell you that almost all of this cotton is for export out of Mexico largely to European markets. No appreciable portion of the cotton is spun or woven in the Republic of Mexico. It adds nothing to the employment opportunities for the industrial population of Mexico. All it adds to the Mexican economy is the opportunity—and I use the word "opportunity" advisedly—for a scant few hundred Mexican agricultural laborers to work for the wages they are afforded by a semifeudal economy.

I submit, therefore, that if this committee applies the rules of good economic sense to this treaty it would, without question, find the State

Department's position without validity. It would be clear to the Senate, and I think to the authorities in Mexico, that the contiguous economies of southern California and Mexico must be considered as a unit, and that the natural resources of the area demand that they be utilized as a unit. This treaty fails to do that. The waters of the Colorado will, under the treaty, be used without real regard for resultant economic effects.

The members of this committee, I trust, will appreciate that more is involved than mere consideration of the treaty that is now before you. As I stated before, the whole question of the wise exercise of our Government's treaty-making powers is involved. This administration is committed to the good-neighbor policy. That policy, as I interpret it, means renunciation of economic exploitation. More than that, it means an active policy of hemispheric economic development, an effort on the part of all the American republics to raise their standards of living through the development of sound economic enterprise.

The people of the State of California fully support the efforts of the people of Mexico to improve their economic status. The people of my State realize that a poor Mexico does not make a rich California. Quite the contrary. Therefore, we give full support to all effort of the Federal Government and of private enterprise in the building up of Mexico's post-war internal economy. The treaty under consideration, we feel, does violence to that effort.

Mexico's post-war economic problem, agricultural and industrial, is a serious and complex one. Mexico will require capital goods and huge public works in the post-war period. It will need technical and managerial assistance from this country. It will need credits. All of these things Mexico should get, not out of a sense of philanthropy but because it is good business for us. The treaty before you, however, is an evasion of these international responsibilities. It is a poultice to cure a cancer. It is a stick of peppermint candy proffered by the State Department to a hungry man. If this treaty is a measure of the depth of economic understanding on the part of the State Department, then I think it is the duty of this committee to acquaint the Department with the A B C's of international economics.

As I indicated in an earlier part of my statement, I come before you as the chief legal officer of my State. My major concern in these proceedings, naturally, is with the legal aspects of the treaty under consideration.

Mexico's use of water has, prior to the building of Boulder Dam, been served from an uncontrolled and unregulated river. For the benefit of the committee, to refresh your memories, before Boulder Dam was erected the most that Mexico ever was able to use out of the river was 750,000 acre-feet. This treaty gives to Mexico 1,500,000 acre-feet, twice as much as she ever used, and now in a river that is regulated.

To continue: Mexico's use of water has, prior to the building of Boulder Dam, been served from an uncontrolled and unregulated river. The river was then characterized by a heavy flood flow of 2 or 3 months' duration, followed by 9 or 10 months of low flow during the critical part of the irrigation season. Mexico's use of water was subject to this variation and to the variations of successive wet and dry cycles of years, normally 7 to 11 years in succession. Had Boul-

der Dam not been built by the United States, Mexico could never have secured by her own efforts as much as 1,500,000 acre-feet per annum in a normal or wet year, and in many subnormal years she could not have got more than a fraction of that amount.

There is a logical and just mode of division of water with Mexico which would not subject the rights of all users in the United States so unfairly to a prior charge in favor of Mexico. After thorough engineering and legal examinations and full debate, the Committee of Fourteen of the Colorado River Basin States on June 20, 1942, at El Paso, Tex., unanimously adopted a resolution which set out a plan for a treaty which was satisfactory to all seven States of the basin. This plan provided in essence for the allotment of water to Mexico upon a sliding scale, so much in a normal year and so much more or less in wet years or dry years. Under that plan, Mexico would have been treated fairly in normal seasons and would have gained ratably with American projects in wet seasons, but would have had to shrink her demands in dry cycles.

Senator WILEY. What was the date of that?

Mr. KENNY. June 20, 1942.

She would not have been able to insist on her pound of flesh in preference to all other American projects, which is exactly what this treaty proposed by the State Department inexorably demands.

A river is not a machine. Its output of water is not a fixed and predictable quantity, day by day and year by year. The Colorado, in particular, is one of the flashiest and most unpredictable rivers of the world. Its flow has been as high as 25,000,000 acre-feet per year. But then I can recall to your mind the year 1934, in which its flow at Boulder Dam was recorded at only 4,400,000 acre-feet.

So I submit to you that any treaty which guarantees to Mexico a large fixed amount of water superior to all rights in the United States is wrong in principle. There is no reason and no necessity for granting a foreign nation a share of the river on such a basis that in time of normal shortage, not extraordinary in character, American projects must shut down their head gates in order that the foreign projects be served 100 percent.

I come now to a subject which involves the good faith and moral rectitude of the United States. The great and daring project for the construction of Boulder Dam, as the major factor in the harnessing of the wild Colorado, was finally authorized by the Boulder Canyon Project Act of 1928. That act approved the Colorado River compact of 1922, an agreement among the seven States of the Colorado River Basin by which certain of the waters of the river were allocated to the four upper States of the basin and to the three lower States, as groups.

By reason of the repeated refusal of one of the seven States—Arizona—to ratify the compact, Congress in 1928 decided to proceed with the project, provided that six of the seven States, including California, should ratify the compact and that, in addition, California should by statute, for the benefit of the other six States, perpetually limit her use of the water of the Colorado River to certain prescribed quantities. In such event, said Congress, the dam should be built; otherwise not. So compelling was California's necessity for the protection of the lives and the property of the people from disaster by

flood that she accepted this harsh and novel condition. Her legislature on March 4, 1929, adopted an act ratifying the compact and another act, now known as the California Limitation Act, by which she imposed on herself and her people the precise limitation which Congress demanded. Thereby California, in the opinion of many of her people, agreed to take from the river far less water than she could have practicably put to use and much less than she was entitled to under the doctrine of equitable apportionment between States, which has been laid down by the decisions of the Supreme Court of the United States.

By terms of the Project Act and of the Limitation Act, there was created a statutory compact between the United States and the State of California, a treaty, in a sense, between sovereigns. This treaty today has the force of law, binding the United States and its agencies as well as the State and its agencies and each of its citizens. This treaty between the United States and California has up to this day been scrupulously adhered to and respected by the State of California; and California expects to be bound by it so long as it continues in force.

The terms of the treaty must be deduced from the entire content of both the Project Act and the Limitation Act. One of the terms is contained in the first section of the Project Act. After full exposition of the provision on the floor of the Senate during the final debates of the act, Congress intentionally and forcefully provided in that section that the flood waters to be stored and conserved behind Boulder Dam should be reserved for "beneficial uses exclusively within the United States." Thereby Congress determined and declared, and, as the debates show, served notice on Mexico and on the world, that the policy of the United States would be to build Boulder Dam for the purposes, among other things, of dedicating the conserved flood waters to the upbuilding of the Colorado River Basin in the United States. As a necessary corollary, those conserved waters should never be given to Mexico. Any water which might be accorded to Mexico must, therefore, be limited to such as she could have secured from the natural flow of the river.

This provision of the Project Act was a vital one, upon which the Legislature of California, when it considered the adoption of the Limitation Act, was entitled to rely and did in fact rely. It would never have adopted the Limitation Act had not Congress stipulated that use of the conserved water should be confined to the United States. This is inescapably true, since the absence of such a provision would have meant that an unlimited quantity of Colorado River water might be granted to Mexico, and thereby it would be made impossible for California to enjoy even that quantity to which she was forced to limit herself.

Now comes, at this date in 1945, an executive department of the Federal Government and proposes to you, the Senate, that the United States shall repudiate its treaty with California by making a new and conflicting treaty with Mexico. Other witnesses for California will show you, in detail, the facts of this. Those facts will tend to convince you that water stored and conserved by Boulder Dam is proposed to be granted to Mexico, not temporarily, but perpetually and beyond recall. Thereby it will be made impossible for California to receive

the full amount of water to which she was compelled to limit herself.

The United States has also pledged its good faith in an entirely distinct, though related, connection. Section 5 of the Boulder Canyon Project Act authorized the Secretary of the Interior to execute contracts for the delivery of water to be conserved by Boulder Dam, and closely integrated therewith contracts for power to be generated at the dam. Section 4 (b) prohibited the construction of the dam until the Secretary should have procured such water and power contracts as would assure the repayment to the United States of the cost of the dam and power plant, with interest.

I think I should recall to the memory of the committee that this is not like Grand Coulee or Bonneville. The cost of Boulder Dam is being repaid to the United States by the people of southern California. This is an idea conceived out of the imagination and daring of these pioneer people who want this project, and who wanted it so badly they have agreed to pay for it themselves, and that is what they are doing.

The Secretary of the Interior did proceed to execute contracts for water and power with public and private agencies in California, which the Attorney General of the United States held sufficient to guarantee repayment of the cost of the dam and power plant and interest. Originally we were going to pay 4 percent; it has been renegotiated to 3 percent.

Senator WILEY. You are private enterprisers down there.

Mr. KENNY. This was some time ago. Senator Johnson was the author of the bill, and he would be the best witness on that.

Thus, and only thus, did it become possible for Boulder Dam to be built, and, in the phrase which some Senators will recall, for a great national menace to be converted into a great national asset. More recently, the States of Arizona and Nevada have contracted with the Secretary of the Interior for water and will ultimately contribute some share of the cost of the dam. Nevertheless, it was willingness of California agencies to shoulder the burden of underwriting the cost which made the dam a reality and made it possible for Nevada, Arizona, and the States of the upper basin, as well, to share in its benefits.

The California agencies obligated themselves by their contracts in entire good faith and expected to be bound by them. They have lived up to their contracts. They took the contracts in absolute reliance upon the good faith of the United States and expected that, of course, the United States would, on its side, live up to and perform the contracts.

Most particularly, the California agencies depended on the solemn declaration of policy contained in the first section of the Project Act, namely, that the stored and conserved floodwaters should be used exclusively within the United States. In the light of that policy, the contracts were contracts which could be performed by the United States. They were, moreover, safely within the limitation of use required by the Project Act and the California Limitation Act. Without such policy, the United States might conceivably give such a great quantity of water to Mexico that the contracts might not be either firm or within the Limitation Act. Obviously, to justify the financing of the vast facilities contemplated by the California contracts, the con-

tracts must be firm and dependable. Witness the provision of section 5 of the Project Act that—

contracts respecting water for irrigation and domestic uses shall be for permanent service.

Acting in implicit reliance on the policy of the United States, which was declared in the first section of the Project Act, the California communities proceeded to construct dams, aqueducts, canals, power transmission, and other facilities within which to put the contracted water and power to use and enable them to earn the money which they had agreed to pay to the United States. They committed themselves—these California communities—to the execution of works of a total cost of over half a billion dollars. Over four hundred millions of this money have been actually expended and are now represented by bonds and contracts to repay. Thus the farms, homes, industries, and jobs of southern California, and the future income of her people, have been mortgaged to pay a huge debt, undertaken in confident reliance on the written promise of the United States, a promise authorized and embodied in a statute made under the sanction of the National Legislature and Executive and declared constitutional by the Supreme Court.

The CHAIRMAN. Right there: Has the United States lived up to that?

Mr. KENNY. It will not be able to.

The CHAIRMAN. I am not talking about that. Has it?

Mr. KENNY. It has to date.

The CHAIRMAN. You are getting all the water you can use and all the power you can manufacture?

Mr. KENNY. At this time.

The CHAIRMAN. That is what I am talking about. All right.

Mr. KENNY. Senator, if I may amplify that, we pledged our treasury, we dreamed our dreams, not for the California of 1944 but for the California of the future—the California of 1990 and 2000. When a dam is built, development does not follow immediately. That was part of our long-range plan that our people had. While we may have enough to meet our immediate demands—

The CHAIRMAN. Do you segregate California from the others States? Do not the other States have their rights?

Mr. KENNY. I think Arizona, Nevada, and our sister States in the lower basin have such rights.

The CHAIRMAN. Pardon the interruption.

Mr. KENNY. I am almost finished, I may say by way of comfort.

It is thus plain beyond words that the California agencies have, in the phrase of courts of equity, “changed their position to their detriment,” relying upon the pledges given them by the most responsible and dependable human agency on earth, the Government of the United States.

The Boulder Canyon Project Act did not only provide for the building of Boulder Dam; it also authorized the construction of the All-American Canal. That canal was designed to put some of the conserved waters of Boulder Dam to use on American soil and thereby create another great national asset. It was and is an integral part of the Boulder Canyon project. To aid in making the All-American Canal financially feasible, the Congress, by section 7 of the Project

Act, directly granted to the agencies, which agreed to shoulder the burden of the cost of the canal, the power possibilities which existed on the canal. Those agencies are the Imperial irrigation district, Coachella Valley County water district, and the city of San Diego.

The power possibilities on the canal have been partially developed, and the canal has been generating power for war needs. One power site is at a point called Pilot Knob. This proposed treaty requires that this potential source of income to repay the United States the money it has advanced for the canal shall be taken away from the canal agencies. More startling, a share in the revenues from that power plant is to be given outright to Mexico.

That plant is necessary to the integration of the power system upon which the canal itself is predicated. Its seizure by the United States will seriously dislocate the enterprise. As I see it, there is no sound reason for this provision of the treaty and obviously no excuse whatever to give its revenues to Mexico.

Senator WILEY. Do I understand from your last statement that certain power rights and water rights are not only in jeopardy but that you have certain contractual rights with this Government that the treaty now specifically destroys?

Mr. KENNY. That is our contention.

Senator WILEY. Is it just a conclusion, or are you going to put in proof to show it?

Mr. KENNY. We will support that by testimony—by engineering testimony and by the testimony of lawyers who have made a particular study of the contractual phase of it.

Senator WILEY. In order to make myself clear on this—I have not been able to attend all these meetings—from your statement, when you made this investment of a half billion dollars—or your citizens did—you claim that you got by the contract certain firm water rights?

Mr. KENNY. That is right.

Senator WILEY. Now, by that you mean certain definite quantities of water?

Mr. KENNY. Signed by the Secretary of the Interior.

Senator WILEY. Now, you said that you dreamed dreams. Were those dreams within the limit of firm water rights, or were they in contemplation of water rights?

Mr. KENNY. The impairment of those contracts will slice the top of our dream right off. In other words, it will take, as we see it, 750,000 acre-feet from it, which is part of what we had contemplated.

Senator WILEY. Not what you contemplated. I want to know whether that 750,000 acre-feet was definitely contracted for.

Mr. KENNY. Precisely; definite contracts with the number of acre-feet set out, and the contracts executed by the Secretary of the Interior.

Senator WILEY. Is there not some dispute as to whether or not under the treaty California would get more water than she had instead of less? Is there anything to that?

Mr. KENNY. I am sure there is nothing to that. If that were so, we would not be here, Senator.

I think there is this to be said: The Colorado River can be utilized entirely within the United States; that is, feasible projects engineered in the upper and lower basin States could use all that water beneficially within the United States. We could use that. We could use

perhaps a million acres more. The river right now is bankrupt. That is, the liabilities that impinge upon it are greater than its assets; that is, the projects that could be developed out of that river.

Senator WILEY. I appreciate that, but there is also another angle to this treaty, and that is, as I remember the testimony originally given, that on the Rio Grande the United States would get a lot of benefit, because the waters of the Rio Grande below the border were fed some 75 percent by Mexican streams, and that we would get 50 percent of the total, or recapture 25 percent there. After all, this seems to be a contest between California, Texas, and the United States, the three parties here. We who live in God's country, up north, are trying to get the full picture, you understand.

Mr. KENNY. Yes.

Senator WILEY. So I go back to the original proposition. I think it is important, if you had half a billion dollars invested, that there be definite promises of the Government that it would not go back on its contract. But, on the other hand, here is the crux of the whole proposition. What was said? What was the contract? We do not want to damage anyone, but in everything human you have got to give and take. Apparently the State Department feels that this treaty is for the best interests of the general welfare; otherwise they would not propose it. Maybe I am wrong about it, but "I am from Missouri," and I want to be shown, and that is all I am here for.

Mr. KENNY. Senator, I think we will be able to show you.

Senator McFARLAND. I thought the Senator was from Wisconsin.

Senator WILEY. I am sorry that the literal gentleman does not understand my play on words.

The CHAIRMAN. Proceed.

Mr. KENNY. We were discussing the All-American Canal—

The CHAIRMAN. Let me interrupt at that point. I would like to know whether or not the United States has in any wise failed to give California water.

Mr. KENNY. No; but this is what we call an anticipatory breach.

The CHAIRMAN. How can the United States be violating its contract if it has given you everything it has contracted to give you?

Mr. KENNY. Senator, I apparently have not made myself clear.

The CHAIRMAN. Yes; you have made yourself very clear. That is what I am asking you about. You are contending that the United States promised to give California all the water in the Colorado River forever.

Mr. KENNY. Not all the water, but some 5,362,000 acre-feet, through contracts signed by the Secretary of the Interior.

The CHAIRMAN. They are continuing those obligations, are they not?

Mr. KENNY. Yes; but we contend that this treaty will prevent that. That is the heart of our complaint.

The CHAIRMAN. We are getting down to it. How much water goes down the Colorado River now into Mexico unused?

Mr. KENNY. Our engineers could probably testify to that.

The CHAIRMAN. You have talked with them. Don't you know that there is 9,000,000 acre-feet that goes down the Colorado River now?

Mr. KENNY. That I would not be prepared to testify to.

Senator WHITE. Your contention is that the United States, by this treaty, is putting itself into a position where it could not fulfill its obligations to California?

Mr. KENNY. Precisely—and to Nevada and to Arizona.

Senator WHITE. So that it is a threat of breach rather than an existing breach?

Mr. KENNY. Precisely, Senator. It is an anticipatory breach that we are concerned with.

Senator WILEY. How many million feet did you say California was entitled to under the contracts?

Mr. KENNY. Under the California Limitation Act, California limited herself to 4,400,000 acre-feet plus half of the surplus in the waters awarded by the Colorado River compact in 1922 to the lower basin States.

Senator WILEY. Then is the nub of this argument that you are presenting (1) that you are getting the water, 4,400,000 acre-feet; (2) that you feel that, if this treaty should become the law of the land, your rights will be prejudiced and that you will not get that water?

Mr. KENNY. Definitely.

Senator WILEY. You claim, third, that you are definitely going to use that water?

Mr. KENNY. Precisely, sir.

Senator WILEY. Now, let me ask you this question: If this treaty becomes the law of the land, is it your theory that the rights of American citizens can be wiped out by it?

Mr. KENNY. We will test it. If it should become the law of the land, that question is certainly going to be vigorously tested by those persons who have risked their treasure in the belief that they had a binding contract, and they are certainly going to try to enforce the contract.

Senator WILEY. You could not test it out unless your second premise is proved correct; that is, that there is not sufficient water to fulfill the contract. It is a question, I take it, of engineering judgment to say which is right.

Mr. KENNY. That is correct. We have adequate engineering information here, some from agencies of the United States, that will support that position.

Senator WILEY. There is just one other thing that I want to take up which I think the chairman had in mind. You say you have a definite contractual right to have 4,400,000 acre-feet of water?

Mr. KENNY. Plus half the surplus.

Senator WILEY. Plus half the surplus?

Mr. KENNY. Our contracts represent some 5,362,000 acre-feet. That is my recollection.

Senator WILEY. Those are definite, concrete amounts, and are not considered in what you call the dream of the future? You do not claim any right in the future?

Mr. KENNY. No; we do not claim any rights over and above that amount. It is true that our plants and industries that will utilize that water did not immediately spring up, but we will within our own lifetimes realize the full beneficial use of all the water that has been contracted for.

Senator WILEY. Thank you.

Senator DOWNEY. Mr. Attorney General, is it not true that there have already been completely constructed, or are now in process of construction, all projects that will use every drop of water given to us under the contracts by the Secretary of the Interior?

Mr. KENNY. Not completely. At least, they are designed. The President of the United States just last November urged, as an emergency measure, with reference to San Diego, because of its great impact of the war upon their economy, that a connection be made to the metropolitan water district so that the waters of the Colorado could be brought into San Diego. Their population increased so much that the President just a few months ago, while his State Department was giving our water away—his Army and Navy said, "We have got to have a lot more Colorado River water to operate the enterprises we have."

Senator DOWNEY. Is it not true that surveys are already under way in connection with San Diego projects?

Mr. KENNY. Perhaps the gentleman from San Diego can tell you that precisely. I would want to be accurate about it. I believe that surveys have been made many years ago. But they can testify on that, Senator.

Senator DOWNEY. Is it not true that the Government expects to complete that San Diego project within 2 years?

Mr. KENNY. I would say they had better. They have such a great population that they never anticipated there, and it is our last water hole in the whole West. There is nowhere else to go for it.

Senator DOWNEY. Is it not true that the water right in San Diego would be one of the first that would be impaired if there was a shortage of water in California because of the increased allotment to Mexico?

Mr. KENNY. That is right. San Diego would be the first cut off.

Senator WILEY. We have it definitely that you are not utilizing the 5,362,000 acre-feet now, but you claim a contract right for that?

Mr. KENNY. Yes.

Senator WILEY. Therefore, as it stands now, there is no evidence that there would be any breach if the treaty became law unless you ran into a repetition of what happened some years ago when you were allocated 4,400,000 acre-feet in the Colorado River; is that correct?

Mr. KENNY. No; you see, you have to have guaranteed to you a firm supply of water. In order to plan your community you have to know how much water that community is going to have. No industrialist would risk his capital, for example, if his plant depended upon a firm supply of water, if—

Senator WILEY. I probably did not make myself clear. I want to know how low the flow of the Colorado River would have to be before you felt that your present needs would not be met. You had a maximum of 25,000,000 acre-feet at one time, and then you had a minimum of 4,400,000 acre-feet. What, in your judgment, would the flow have to be cut down to where the present utilization needs would be prejudiced?

Mr. KENNY. Senator, I could not testify to that. We either have a contract or we have not got one.

Senator WILEY. I understood you to say that if this treaty became the law of the land there would be an immediate prejudice in relation to certain electric power rights.

Mr. KENNY. Yes.

Senator WILEY. What was that?

Mr. KENNY. That is the provision of the treaty relating to Pilot Knob, where there is a power plant of the All-American Canal, and the treaty, by its terms, provides that a part of the revenues of that plant, which we need to repay the United States for the cost of building the canal, is to be awarded to Mexico under the specific terms of the treaty.

Senator WILEY. What instrument gives you the right to that?

Mr. KENNY. The contracts we have with the Secretary of the Interior.

Senator WILEY. Who is "we"?

Mr. KENNY. We, in that case, would be the Imperial irrigation district.

Senator WILEY. You have definite contract rights?

Mr. KENNY. Yes, sir.

Senator WILEY. When they were negotiating this matter was that taken up?

Mr. KENNY. No. It was never conceived. It is such a shocking proposal that I do not imagine it was ever conceived of, that any agency of the Government would take away these revenues and give them to a foreign power.

Senator WILEY. You have your contracts that you will put in evidence.

Mr. KENNY. Oh, yes, Senator.

Senator WILEY. There was no consultation with anyone representing the present owners?

Mr. KENNY. You mean, the present owners of the land down in Mexico?

Senator WILEY. No; the owners of power.

Mr. KENNY. The Imperial irrigation district created that power, and they have, by contract, set up this power plant at Pilot Knob, and the revenues from that power go to repay the United States. We are paying for that whole operation.

Senator WILEY. My question is whether or not there is a provision in the treaty that takes away from citizens of this country certain property rights without compensation.

Mr. KENNY. Precisely.

Senator WILEY. I am asking you whether or not there was any consultation with the owners of the property rights?

Mr. KENNY. No; there was not. The agencies that are affected by it, that is, in California, had no part in writing that into the treaty, I can assure you, Senator.

Senator McFARLAND. I would like to ask a few questions in regard to the power situation, while we are on that subject, although I had intended to wait until Mr. Kenny got through with his statement.

You talked as though California built the dam and that it belonged to California.

Mr. KENNY. No.

Senator McFARLAND. As a matter of fact, the site for this dam is not in California, is it?

Mr. KENNY. That is correct.

Senator McFARLAND. And California does not contribute one drop of water that does into the dam, does it?

Mr. KENNY. It may contribute one drop; I don't know.

Senator McFARLAND. Is it not a fact that the dam is above the boundary of California?

Mr. KENNY. That is right.

Senator McFARLAND. So, as far as the dam site and the water that goes into it are concerned, California has not contributed anything. As far as the power is concerned, Mr. Kenny, is there anything in regard to the Boulder Dam power that this treaty would disturb? Does not all the water have to go through the dam?

Mr. KENNY. The power allottees will be better able to testify to that than I am.

Senator McFARLAND. You know whether it is the truth or not. You are testifying that it will be disturbed. You know whether the water can go around the dam or has to go through it or not; do you not?

Mr. KENNY. I do know this. I know that the power allottees are very exercised about the treaty.

Senator McFARLAND. You think that maybe there is some possibility that water might be diverted to Mexico without going through the Boulder Dam?

Mr. KENNY. I believe that their problem is not the matter of how the flow—

Senator McFARLAND. I hope that we in Arizona will be able to take some out. We think we have a right to it above the dam. But as far as this treaty is concerned there is nothing that is disturbing to you about water going through the dam and that is being supplied, is there?

Mr. KENNY. Yes. I believe the point they will make is that this treaty would permit a foreign power to participate in the regulation of the flow of the water. I am not an expert on how power is manufactured, but if there is not a steady flow in one way or another it affects their interests. I am not prepared, on that, Senator. I will let the power men develop that.

Senator McFARLAND. The only reason that I am asking you these questions is because you opened the subject and made the statement, which I assume was a conclusion which you have the facts to back up.

Mr. KENNY. Yes. I opened the subject as to Pilot Knob, but we will have it backed up.

Senator McFARLAND. We will come to that in a few moments.

As a matter of fact, unless there is something in the way that water is compelled to be let down there is nothing in the treaty that will disturb the power situation at Boulder Dam, is there?

Mr. KENNY. I cannot answer that. I am not prepared on the Boulder power situation.

Senator McFARLAND. I do not want to ask you to answer a question that you do not know about, but I do not want to let your conclusions stand without letting it be known that you do not have the facts to back them up. In the second place, you will admit that the water is the most important factor of this matter?

Mr. KENNY. It is the highest use; yes.

Senator McFARLAND. Water should be delivered to Mexico at the point where we will receive the most beneficial use; should it not? That is, we should not deliver it at a point which would allow Mexico to get more water, should we?

Mr. KENNY. No.

Senator McFARLAND. Therefore, if it should not be delivered at a different point from Pilot Knob in order to lessen the amount of water which Mexico would get, where should it be delivered?

Mr. KENNY. I can only answer you in general terms, and that is that the water should be put to its highest possible use.

Senator McFARLAND. What I am getting at is this. You would not want this water to go around through Pilot Knob, would you, just to give the Imperial irrigation district a little more revenue?

Mr. KENNY. Not as far as I am concerned. I would want to see the highest possible economic use of the water at all times, and without regard to any sectional or local interest.

Senator McFARLAND. If that means that the point at which Mexico would accept its water would be at a different point from Pilot Knob, would you agree that that should be done for the good of the United States?

Mr. KENNY. I can answer you in general terms and, in them, I agree with you. I do not have any specific data.

Senator McFARLAND. Then if it is shown that it is best not to run all this water around through Pilot Knob, you would agree that that is all right? In other words, you do not want this water being run through Pilot Knob just to produce a little more revenue for the Imperial irrigation district?

Mr. KENNY. Not as far as I am concerned.

Senator McFARLAND. You are speaking for California. Does California want it run through there just to produce revenue for the Imperial irrigation district?

Mr. KENNY. The State as a whole wants the water to be devoted to its highest possible economic use. It does not want the water to be given to a few international financiers below the border, in Mexico, who are going to make something out of it.

Senator McFARLAND. You and I agree on that proposition. We are going to agree just as much as we can here. I think California and Arizona should have agreed a long time ago. But the unfortunate part of it is that you are talking about unanimous support of a treaty. Have you ever heard of any water controversy in which everyone unanimously agreed?

Mr. KENNY. I do not think I have. I think that is probably a little idealistic, Senator.

Senator McFARLAND. Regardless of what should be brought in, you would not expect everyone to agree to it, would you?

Mr. KENNY. I think we can agree in general terms about the highest possible use, but as to the application of those terms there might be some trouble. I think you developed quite a bit on that yesterday in your examination.

Senator McFARLAND. We are hoping that we will develop a little bit more. We are getting off to a good start, with the indulgence of the chairman. I know he must be impatient with us, but it is something of vital importance to us.

The CHAIRMAN. Go ahead. I want you to develop it all.

Senator McFARLAND. You do not really want to complain, then, in your testimony that this water is not being diverted through Pilot Knob, do you? Do you want to leave the impression here that all of this 15,000,000 acre-feet, or whatever amount should be delivered

through Pilot Knob, when there is other water going down through the river that could be measured—

Mr. KENNY. As I read the treaty, it takes the revenues—that is the one point I made—and apportions part of them to Mexico.

Senator McFARLAND. I am talking about the water, now. I have been questioning the amount, but let us suppose that there is 5,000,000 acre-feet of water, return flow: That could never be put through Pilot Knob, could it?

Mr. KENNY. You just have me on that. I have not developed the engineering features. I have relied on other members of this large delegation that we have here for that.

Senator McFARLAND. Don't you know that much about it?

Mr. KENNY. I don't know that much about it.

Senator McFARLAND. Then I will not ask any more questions, if you do not know that much about it.

Mr. KENNY. I will concede that you have me on Pilot Knob.

Senator McFARLAND. Those are all the questions I want to ask.

Senator MURDOCK. May I ask a question, Mr. Chairman?

The CHAIRMAN. Certainly.

Senator MURDOCK. Do you concede, General, that Mexico has a valid, legal claim on any of the waters of the Colorado River?

Mr. KENNY. Not a valid legal claim. I think in comity Mexico should be entitled to that water that she was able to use before Boulder Dam was erected. I think it is not legal, but is a matter of comity. She should not have any more.

Senator MURDOCK. Did she establish a right then to the beneficial use of certain water out of the Colorado River?

Mr. KENNY. I would not say she has a right. I would say that as a matter of comity between nations she should be given that.

Senator MURDOCK. Do you concede that Mexico beneficially used any water from the Colorado River?

Mr. KENNY. Yes; 750,000 acre-feet prior to Boulder Dam. That was the maximum.

Senator MURDOCK. You believe in the doctrine of appropriation; do you not?

Mr. KENNY. I know that such a doctrine exists, but California is still generally on a riparian basis. I know that the arid States of the West have adopted the appropriation doctrine, and I think it is the most equitable and the most useful doctrine to be applied in an arid State.

Senator MURDOCK. Certain people in Mexico, regardless of who they were, established the right, as I understand you now, at some time, to the use of 7,500,000 acre-feet of water?

Mr. KENNY. That is right.

Senator MURDOCK. As I understood the testimony of the State Department, they are rather apprehensive that if this country allows the flow into Mexico of waters that now flow into Mexico, amounting to several million acre-feet, and Mexico appropriates that water and beneficially uses it and builds up communities, there might be a chance of Mexico acquiring much greater rights in the Colorado River than this treaty provides for her to have. I would like to have you discuss that.

Mr. KENNY. I have heard that claim made, and our position is that it is nonsense; that in the Project Act the declaration was made and

notice served on Mexico that none of the waters impounded behind the dam should be used outside of the United States, and the fact that the waters have been conserved by this American project is the appropriation of those waters, and that the only right that Mexico can ever have is what she has used out of the natural flow of the river and not out of the floodwaters impounded in the dam.

Senator MURDOCK. The State Department in their testimony referred to a certain treaty now in existence between the United States and Mexico providing for the arbitration of controversies arising between the two governments. As I recall the testimony it was this, that notwithstanding the fact that we have said in the Boulder Dam Project Act that the waters conserved behind Boulder Dam were exclusively for use in the United States, if we allow these communities to be built up and vast acreages to be put under irrigation by Mexico, we may be confronted sometime in the future by Mexico's submitting the question to a court of arbitration under that old treaty. Have you anything to say about that?

Mr. KENNY. Yes. At best, if the State Department made that representation it is a half-truth, because the Senate, in its wisdom, when that treaty went through, I think in 1928 or around there, attached a very healthy reservation to this arbitration treaty, mostly healthy, in the light of subsequent events, a far-seeing provision, and under that reservation we cannot be compelled to arbitrate anything that we do not want to arbitrate. The arbitration treaty, as we read it—and we will have the testimony of those who have interpreted the treaty—is merely the machinery for arbitration, but not anything that compels us to arbitrate any subject against our will.

Senator MURDOCK. That is, we set up the machinery of arbitration, but we reserved the right not to arbitrate anything?

Mr. KENNY. That is right. The Senate put in that reservation, and I think it was a very wise reservation.

Senator MURDOCK. Can you consider that compatible with the good-neighbor policy of which we hear so much today?

Mr. KENNY. I believe so. I believe that good fences make good neighbors, and I think that understandings based on mutual economic interests, are what make good neighbors. I do not think this is a good-neighbor policy at all. We have mighty few neighbors down there, and some are our own nationals, that are getting the benefit of this arrangement.

Senator DOWNEY. Do you think that in any event we could be forced to arbitrate the question as to whether or not we should measure water out of Boulder Dam to Mexico?

Mr. KENNY. I do not. It is conceivable to me that we should be forced to arbitrate what we do with water that we impound ourselves.

Senator DOWNEY. Do you think that by any arbitration we could be forced to build Davis Dam, for instance, at our expense, in the United States?

Mr. KENNY. Well, under this treaty it is entirely possible.

Senator DOWNEY. I mean, without this treaty.

Mr. KENNY. No, Senator.

Senator DOWNEY. Do you think we could be forced by arbitration to divert water in the United States for use in Mexico?

Mr. KENNY. No.

Senator DOWNEY. Is it not true, Mr. Attorney General, that Mexico could get only a small part of its water, except it is diverted out of irrigation works that must physically be in the United States?

Mr. KENNY. Precisely, Senator.

Senator DOWNEY. Could there possibly be any arbitration by which we could be forced to arbitrate whether we would build dams and construction works within the United States to help divert water down into Mexico?

Mr. KENNY. Not unless we consented to it. If we were so foolish as to consent to it, that would be another matter. We could not be forced to arbitrate such a question.

Senator WILEY. How much water now flows into Mexico? Can we agree on how many acre-feet that is?

Mr. KENNY. I think that question was asked before. I would defer to the engineers on that.

Senator WILEY. Can we agree on what the evidence shows? I want to follow that with another question.

Senator DOWNEY. I think the evidence has shown that there is flowing down the Colorado River now water at the rate of about 7,000,000 to 8,000,000 acre-feet a year.

Senator WILEY. This matter has been injected by my friend to the right, Senator Murdock.

You spoke of this not being a legal right, but a matter of comity?

Mr. KENNY. That is correct.

Senator WILEY. If we had such a treaty as I think was formed in 1899 between the two nations, irrespective of that treaty, have you anything to say in relation to international law as to water rights by comity?

Mr. KENNY. Yes. We will introduce an opinion of Mr. Harmon, Attorney General of the United States, which was rendered many years ago, in which he flatly held that Mexico had no right in this water.

Senator WILEY. I understand that by virtue of Boulder Dam, totally paid for by citizens of the United States, there now results a flow estimated to be 7,000,000 or 8,000,000 acre-feet, into Mexico?

Mr. KENNY. No; not as a result of Boulder Dam; that is, water going down there at the present time. It has not been fully utilized by the various projects in this country. The water is earmarked for ultimate use, but all those uses do not spring into being the minute you harness the water of a river.

Senator WILEY. Whether it is regulated by Boulder Dam, or whatever the fact is, it is 7,000,000 or 8,000,000 acre-feet. Suppose that that is continuous and that, as a result, communities grow up. If they were in this country there would not be any question but what some would acquire water rights, but being in a different country, what is the international law that would apply? Is the State Department in a blind alley when it says that it is trying to protect American rights? You are a lawyer and not a water expert. What is the law on that?

Mr. KENNY. In the first place, we rather indignantly repel the suggestion that the State Department is protecting our rights in negotiating this treaty. But beyond that, the domestic law would be

clear, and I think the international law would be clear. I cannot testify as to the international law, but the domestic law would be, that the dam having impounded those waters, they are appropriated. As I understand the law of appropriation, if a work is constructed, Senator, and if the water conserved is, within a reasonable period of time, devoted to beneficial uses, that water then is earmarked. The mere fact that during a reasonable time which was allowed to elapse after the construction of the work the water may go down and be picked up by lower users does not give those lower users any right. That water has been appropriated by the construction of the work, and will be permanently appropriated if devoted to a beneficial use within a reasonable time thereafter.

As I say, I cannot testify on international law, but that makes good sense and probably is the international law, too.

Senator WILEY. Thank you.

Senator McFARLAND. I shall not ask you any more questions in regard to engineering or the supply of water or where it comes from, because you have indicated that you did not want to answer them; but you did testify in regard to the contract which California has with the Secretary of the Interior.

Mr. KENNY. Yes, sir.

Senator McFARLAND. As far as the building of this dam is concerned, the United States put up the money, did it not?

Mr. KENNY. That is right.

Senator McFARLAND. And the only difference between the building of Boulder Dam and any other dam is that in this particular instance the Government wanted to know before the construction was started that there were sufficient people willing to contract for benefits and that it would be paid for?

Mr. KENNY. That is right.

Senator McFARLAND. In the case of the other dams which are built the Government has engineers come in and justify them by stating that there are sufficient people, and they take their word for it. But in this instance certain people contracted for power, and, in the metropolitan district for water, and those contracts for power were made because they could get the power more cheaply from that source than from some other source?

Mr. KENNY. I would think that would be good business.

Senator McFARLAND. They were not just giving somebody something for nothing, were they?

Mr. KENNY. No.

Senator McFARLAND. They have gotten value received at all times?

Mr. KENNY. Precisely.

Senator McFARLAND. And there are people in other States who would probably like to get some of that power now; is not that correct?

Mr. KENNY. I do not know.

Senator McFARLAND. I will tell you that there are.

Mr. KENNY. It is conceivable.

Senator McFARLAND. It is a very good contract.

As far as the water end of it is concerned, the irrigation water, the stored water, California did not have to pay anything for that water for irrigation, did she?

Mr. KENNY. No.

Senator McFARLAND. Do you know of any other irrigation project in the United States where the people, other than Indians—of course, they get something for nothing sometimes—do you know of any irrigation project in the United States where the users of water for irrigation got stored water for nothing?

Mr. KENNY. I do not, and I agree with you, Senator, that it may be a most advantageous contract. All the more reason why the State Department should not breach it for us.

Senator McFARLAND. I am coming to that. The question comes right down to this proposition, does it not? You agree that the power is important.

Mr. KENNY. Water is the highest and most important use.

Senator McFARLAND. It is made so by law, is it not, and power is secondary by law?

Mr. KENNY. I assume it is in this act.

Senator McFARLAND. You have read the act, have you not?

Mr. KENNY. I have read it at one time or another. Everyone in California has read parts of it.

Senator McFARLAND. Of course, if you have not read it—

Mr. KENNY. I read it in 1929, probably, when I attended our legislature.

Senator McFARLAND. The important thing is the amount of water that we are letting Mexico have. That is the important thing, is it not?

Mr. KENNY. That is the whole thing, as I see it. That is the really critical thing.

Senator McFARLAND. You and I come right down to an agreement on that. We should not base it on the power situation at all. Then it becomes an engineering problem, does it not, pure and simple, as to whether California will get the water they have contracted for?

Mr. KENNY. That is right.

Senator McFARLAND. California, of course, knew that they were apt to supply some water to Mexico when they made the contract, did they not?

Mr. KENNY. Well, California was entitled to rely upon the declaration of Congress that none of the water would be used outside of the United States.

Senator McFARLAND. They were given notice in the compact, were they not, and in the Boulder Dam Act?

Mr. KENNY. Of course I do not have the language before me, but the language in the Boulder Canyon Project Act contained an express declaration by the Congress that none of the stored waters would be made available to Mexico.

The CHAIRMAN. Did it not also say, "subject to the terms of the Colorado River compact"?

Mr. KENNY. I do not have the act before me, but that is as I recollect it.

Senator McFARLAND. I do not think there is any question about that, Mr. Chairman.

You are familiar with section (c) of article III of the compact, are you not?

Mr. KENNY. Yes, sir.

Senator McFARLAND. And you agree that all these acts were passed recognizing the Colorado River compact?

Mr. KENNY. Yes.

Senator McFARLAND. You do not have to refer to the act in order to know that?

Mr. KENNY. That is right.

Senator McFARLAND. I do not blame you for not wanting to testify in detail as to any act, from memory. That shows that you are a good lawyer.

Mr. KENNY. Well, it is a dangerous practice.

Senator McFARLAND. I do not want you to misunderstand my question in that regard. Now, will note that (c) which provides [reading]:

If, as, and when as a matter of international comity the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b).

Now, that surplus that we are talking about is a surplus as to which your legislature limited you to one-half?

Mr. KENNY. That is right.

Senator McFARLAND. So you signed the compact?

Mr. KENNY. That is right.

Senator McFARLAND. And you were fully aware that under the compact you might be required to give half—I mean that these surplus waters would be used for that purpose?

Mr. KENNY. That is right.

Senator McFARLAND. All right. Then, your contract. You talk about justification, a definite proposition. All of your contracts provide "if the water is available," do they not, or words to that effect? They are not a definite guaranty?

Mr. KENNY. Yes. We could not sue for a shortage, naturally.

Senator McFARLAND. And they are effective only if the waters are available under the compact and under the law, is not that right?

Mr. KENNY. Well, that is right; under the law.

Senator McFARLAND. Yes.

Mr. KENNY. Yes; we agree with you as to that.

Senator McFARLAND. And the compact is the law as far as California is concerned?

Mr. KENNY. That is right; but the law we think goes a good deal further and does not say that Mexico can have twice what she ever used before.

Senator McFARLAND. Well, I am not going to go into that with you right now, because I agree with you that we do not want to have to supply Mexico with one drop of water more than she is entitled to.

Mr. KENNY. That is right.

Senator McFARLAND. But I disagree with you when you complain that California is being mistreated here or has ever been mistreated, because California does get more benefits out of this than anyone else.

Mr. KENNY. Well, Senator, I think we may be "hollering before we are hurt," but we certainly have a right to see a breach coming and to complain before it occurs.

Senator McFARLAND. But let us confine it solely to the water.

Mr. KENNY. Yes.

Senator McFARLAND. Now, that is the whole thing here, as you and I agree. With that, Mr. Chairman, I am willing to conclude my questioning of Mr. Kenny.

Senator DOWNEY. Mr. Chairman, I would like to ask a question or two, if I may.

The CHAIRMAN. Senator Downey.

Senator DOWNEY. Mr. Kenny, the Senator from Arizona stressed the fact that under the arrangement that was worked out California water users do not have to pay any charge for their irrigation service, and is it not true that at the time Boulder Dam was constructed California water users had very valuable rights on the Colorado River, to the extent of many millions of acre-feet, and that the California water users were not compelled to pay any charges for that water, and that they surrendered or merged those rights in Boulder Dam project—is not that true?

Mr. KENNY. I could not say definitely on that, Senator. As to what the prior rights were or what that bargain was, I think Senator Johnson or Mr. Swing, gentlemen who participated in that arrangement, are here. Their testimony on that would be very much more valuable than mine.

Senator McFARLAND. Let me see if I understand the question. You agree, do you, Senator, that California has given up these rights when they go into the Boulder Dam Act?

Senator DOWNEY. They merged into Boulder Dam, and there had been no charge for the water that they drew from the river.

Senator McFARLAND. And that was the consideration that California got for giving up those prior rights which they had—was the right to the stored water in the Boulder Dam?

Senator DOWNEY. Senator, I used the word “merged” their rights. As you know, it is quite complicated. There is no use going into it, but the point I am making is that Colorado water users were not compelled to pay anything for their water when they took it directly from the flow of the stream.

Senator McFARLAND. Well, of course, if they did not have these rights, why, then, they did not give up any.

Senator DOWNEY. These facts are, of course, whatever they are.

Now, Mr. Kenny, I will also ask this question. Is it not true that in computing the power rates that would have to be fixed in order to pay the charges on Boulder Dam, there was taken into account that the farm irrigation rights would be free, and that necessarily increased the power cost? In other words, it was a question of whether the residents of the Southwest would pay for that dam in water or in power, and the arrangement was worked out to make the power charges pay practically the whole cost; is that not true?

Mr. KENNY. That is my impression, Senator.

Senator DOWNEY. That is all.

The CHAIRMAN. Are you through, Mr. Kenny?

Mr. KENNY. I have about one page further to conclude. I would like this in the record, if possible.

The CHAIRMAN. Very well.

Mr. KENNY. Eighty percent of the actual users of the Colorado River water are opposed to the treaty that is now before you. Evidence of that will be presented.

The CHAIRMAN. And the other 20 percent?

Mr. KENNY. Eighty percent are opposed.

The CHAIRMAN. I say the other 20—are they for the treaty?

Mr. KENNY. That I do not know. I know that 80 percent are against it.

The CHAIRMAN. If you know about the 80 percent, you should know about the whole thing.

Mr. KENNY. Well, I would assume that there must be at least 10 percent that do not know anything about it. That is usual on all public-opinion polls. These water users are opposed to it, because it is unjust to our own people and is lacking in the integrity which the Government owes to its own people.

It will be shown to you by our witnesses that this treaty is couched in vague, mysterious, and ambiguous terms. This would be one thing were its meaning to be subject to determination by our courts. It is entirely another when it is seen that the treaty expressly empowers a commission of two men—one Mexican, one American—to determine finally what the treaty means, what the commission's own powers are, and even what the obligations of the two nations are—all, as will be shown to you, beyond control of our courts. Moreover, there is vague intimation that the commission or State Department may at will enter into unlimited expansion of its powers by their own future agreements, with no sanction by the Senate.

Throughout, the Commission and the American Commissioner are placed beyond effective control by Congress. The United States agrees to build, or do, what the two Commissioners agree on. If Congress refuses to appropriate, we have breached our treaty and are subject to international odium and to discipline by international tribunals.

You will be informed, during the hearing, that the American Bar Association has emphatically disapproved, by resolution, of some of the sweeping delegations of legislative and judicial power contained in this treaty. Because of the treaty's obvious failure to protect American interests, the treaty has also been condemned by resolutions adopted by the national convention of the American Federation of Labor at New Orleans, by the National Encampment of the Veterans of Foreign Wars and other veterans' organizations, and by the National Grange and other farmers' organizations.

It is settled beyond question, as the result of years of investigation by able Government engineers, that there are known, feasible projects in the United States which can consume all the water of the Colorado River, were no allowance made for Mexico, and a million acre-feet per annum more. Consequently, for every acre irrigated in Mexico, an acre in the American Southwest will be condemned forever to remain barren desert.

Senator WILEY. Were those condemnations by those certain groups general or were they specific condemnations?

Mr. KENNY. Specific, Senator, naming the reason. We will introduce the proceedings before the American Bar Association, the statements by Roscoe Pound and others who participated in that discussion at Chicago this last year; the reasons for the opposition by the American Federation of Labor are set out very clearly in their resolution, and the Veterans of Foreign Wars. They are not, I assure you, merely "pressure" resolutions. They are carefully documented statements, and they will be introduced.

There is no visible consideration for the extravagant and vicarious generosity of this treaty in giving away one of the most precious natural resources of the Southwest. Mexico gives nothing in return—she does not even pay her share of the cost of the vast conservation works which the United States has built and will build on the Colorado River. Nor does the United States as a whole stand the cost of Boulder Dam, either. Every dollar of that cost, with interest, will come from the pockets of water and power consumers in the Southwestern States—Arizona, Nevada, and California.

If there is some national object which requires generosity to Mexico the consideration should be paid from the Treasury of the whole United States, not be added to the power and water bills of home owners and farmers in one section of our country.

For the reasons I have sketched, and for many more which will be presented to you in detail, it is not surprising that national organizations of labor, of farmers, of the bar, and others have condemned the principles on which this treaty is drawn.

In conclusion, I would say that the United States should scrupulously accord to Mexico that which is just and fair, nothing less, but certainly nothing more. But the Senators will, I feel sure, weigh soberly arguments put before them—

The CHAIRMAN (interposing). Will weigh what?

Mr. KENNY. "Will weigh soberly." [Laughter.]

The CHAIRMAN. You have not seen any evidence of any other kind?

Mr. KENNY. No; I agree, Senator, that this is a "water" treaty.

Senator WILEY. We have heard so much talk about water there couldn't be any other condition.

Senator McFARLAND. Well, they make wine with this water, in California, do they not?

Mr. KENNY. Only indirectly. There is some theory they put their water into wine.

Senator WILEY. Bring it on—let's see.

The CHAIRMAN. They also make "medicine," do they not?

Mr. KENNY. In conclusion, I just want to remind you of what I think is the salient thing of this, and that is that this treaty gives water to a sparsely settled portion of Mexico; will largely only benefit international financial interests that control the marketing and processing of the cotton in that area; that it makes very few job opportunities for the Mexican citizen, and it puts a definite ceiling on the future of the thriving American communities of California and Arizona and Nevada. Thank you.

The CHAIRMAN. Are there any Senators who want to ask any questions?

Senator MURDOCK. I want to ask, after you get through.

The CHAIRMAN. I will defer to any other Senator that wants to ask questions.

You agree, though, that Mexico should have some water?

Mr. KENNY. Precisely; yes.

The CHAIRMAN. Now, you spoke about this depriving the Imperial Valley irrigation district of some revenues, did you not?

Mr. KENNY. That is right; power revenues.

The CHAIRMAN. How much revenue are they getting out of Mexico now by selling water to them?

Mr. KENNY. That I do not know; but I know that whatever revenue they get will be used to repay the United States Government for the cost of the dam.

The CHAIRMAN. You have already indicated they have contracts, under which they have got to pay, anyway, and I would like to know if you know how much revenue Imperial Valley is now getting from Mexico for water?

Mr. KENNY. No. I will have that testimony. Officials of the Imperial irrigation district are here and can give the best evidence.

The CHAIRMAN. What you meant was that the taking away of the revenues would occur in the future?

Mr. KENNY. A portion of the power revenues of the Pilot Knob project are given by the treaty to Mexico; that is correct, Senator.

The CHAIRMAN. I know; but you led us into taking away from the Imperial Valley this toll that they have been getting from Mexico for the water, too, did you not?

Mr. KENNY. Well, I understand some temporary arrangements have been made for war-needed crops and things like that, in Mexico; by a temporary arrangement, between the farmers on both sides of the border, water has been furnished.

The CHAIRMAN. Is it temporary? Has not the Imperial Valley for years been getting money from Mexico for this water delivered to them?

Mr. KENNY. As I say, I do not know the amount.

The CHAIRMAN. Have you ever been consulted about that, as attorney general?

Mr. KENNY. No; the district has their own attorneys on matters of that kind.

The CHAIRMAN. Were you at Chicago at the American Bar Association meeting?

Mr. KENNY. No; I was not there, but we have gentlemen here who did attend that meeting.

The CHAIRMAN. I thought you had.

Senator McFARLAND. I just wanted to ask, it is a fact that the Imperial district has wanted to make contracts for delivery to Mexico, is it not? Do you know about that?

Mr. KENNY. No; I cannot testify as to that, directly.

The CHAIRMAN. With respect to these other resolutions, you or California had representatives at each one of these other meetings?

Mr. KENNY. That is right; yes, sir.

The CHAIRMAN. And they instigated and promulgated and propagandized these resolutions?

Mr. KENNY. "Called to the attention," Senator.

The CHAIRMAN. Yes; they "called to the attention" all of these censuring resolutions, did they not?

Mr. KENNY. That is right.

The CHAIRMAN. You spoke about the conditions in Mexico, about the "poor area," and of how unwise it was for them to use the water. That is a matter for Mexico to determine, though, isn't it? You are a lawyer. Whatever water she is entitled to, whether it is 1 gallon or 10 gallons, she is entitled to do what she pleases with it after she gets it?

Mr. KENNY. Precisely.

The CHAIRMAN. And the economic conditions on that side of the border are for Mexico to determine, not for us to determine, are they not?

Mr. KENNY. I think there are considerations in treaty making in which the common good of the neighbor should be considered, and I think there are other things that I spoke of in the light of what I would call a durable good-neighbor policy, and as I say, giving water for this is not promoting that.

The CHAIRMAN. You think the good-neighbor policy means then for us to do as we please and also tell Mexico what she ought to do; is that right?

Mr. KENNY. No.

The CHAIRMAN. Just let me amplify that a little. You admit Mexico is entitled to some water, do you not?

Mr. KENNY. That is right.

The CHAIRMAN. Well, is it our business then to tell her how she shall use that water, or is it Mexico's business to say how she shall use it?

Mr. KENNY. If once the water has been allocated to Mexico, it is her business.

The CHAIRMAN. All right.

Mr. KENNY. My point was that there are other things that Mexico needs much more than our water.

The CHAIRMAN. And that we ought to decide that for her?

Mr. KENNY. We should. It is part of the arrangement; yes.

The CHAIRMAN. I want to tie you down now to answering one question: If Mexico is entitled to any water, is it not her business to decide what she shall do with it?

Mr. KENNY. That is right, once the water has been awarded to her.

The CHAIRMAN. All right; all right. Have you ever been in this territory of Mexico that you are talking about?

Mr. KENNY. Yes, I have, Senator.

The CHAIRMAN. You went down to survey it and look it over?

Mr. KENNY. No; I did not get far below Mexicali, Senator, on my trip.

The CHAIRMAN. I am talking about this area in Mexico, now, that you are talking about, that ought not to be irrigated.

Mr. KENNY. That is right.

The CHAIRMAN. You have been there?

Mr. KENNY. Well, I have flown over it.

The CHAIRMAN. You have flown over it?

Mr. KENNY. Yes; I am familiar with it.

The CHAIRMAN. How many thousand feet "over it" were you? It is a little difficult to make an engineering survey from an airplane, isn't it?

Mr. KENNY. Yes. Well, it would be difficult for me to make an engineering survey, from an automobile, Senator. I think that has been established by Senator McFarland's questions.

The CHAIRMAN. This Pilot Knob electrical installation belongs to the Imperial Valley Irrigation Co.?

Mr. KENNY. That is right. That is their operation.

The CHAIRMAN. They make money out of it?

Mr. KENNY. It is a people's project, Senator, for which bonds were issued.

The CHAIRMAN. I know, but they have to either make or lose money on it?

Mr. KENNY. That I cannot tell you. I imagine they are losing money, if it is just recently set up.

The CHAIRMAN. If they are losing money, they would just keep on wanting to lose more money?

Mr. KENNY. No; I do not think that is the case. It is like all new enterprises.

The CHAIRMAN. You know whether they are making money out of it, do you not?

Mr. KENNY. No; I do not, Senator; but I can get you that testimony.

The CHAIRMAN. I believe Senator McFarland brought out the figures on California's contribution.

Senator McFARLAND. I did not bring out the amount they put in the river. I brought out the fact that they did not put any in the Boulder Dam. There is practically no water from California that goes into the Colorado River, is there?

Mr. KENNY. I think that is substantially correct. It is a small amount.

Senator WILEY. Where does the water come from?

Senator McFARLAND. Well, from the upper basin States, and Arizona.

Senator WILEY. What percentage is from Arizona? [Laughter.]

Senator McFARLAND. Well, it is a great deal more than California. [Laughter.]

Senator WILEY. Who gives it to Arizona?

Senator MURDOCK. Utah! [Laughter.]

Senator McFARLAND. Well, you ask who gives it to Arizona, why, then we have to look to a higher being than the President—I mean, than the United States Senate.

Senator WILEY. Than the President? [Much laughter.]

The CHAIRMAN. Mr. Kenny, you made some references to some speech the President made. You said while he was making this speech his Army and his Navy and his State Department were contradicting his attitude?

Mr. KENNY. No. I can get you the reference. The President's reference was to the needs of the Army and the Navy for development of San Diego's water needs; and at the same time the President was taking that attitude his State Department was giving the water away.

The CHAIRMAN. All right. You are aware that the President sent this treaty up to the Senate, did he not?

Mr. KENNY. That is right.

The CHAIRMAN. He asked for its ratification?

Mr. KENNY. I am aware that he asked for its ratification. That is right.

The CHAIRMAN. All right. That is all.

Senator WILEY. Can you reconcile the two positions?

Mr. KENNY. I cannot, Senator.

Thank you very much, gentlemen.

The CHAIRMAN. All right. Senator Johnson.

Senator JOHNSON of California. Now, as to the water that would come through Pilot Knob, that is dependent upon the consent of the Secretary of the Interior for use in Mexico. You are familiar with that part of the contract?

Mr. KENNY. I think that Mr. Swing can develop that testimony much better than I can, Senator Johnson.

Senator JOHNSON of California. The water can be returned to the river from Pilot Knob, to be used lower down, and run throughout the canal to Mexico, as the Secretary of the Interior may allow. Are you familiar with that?

Mr. KENNY. Well, as you read it, I am, Senator.

Senator JOHNSON of California. The Imperial irrigation district has no right to deliver water from Pilot Knob to Mexico without the consent of Secretary Ickes. Are you familiar with that?

Mr. KENNY. That is right, Senator.

Senator JOHNSON of California. I ask you those questions because Pilot Knob, and the power that is there generated, play some peculiar part in this. I am not entirely certain of the part, but it plays some part in the minds of some of the Senators, here. Now, do you know any part of the works of the Boulder Dam that are paid for by Mexico?

Mr. KENNY. No, I know of no contribution by Mexico to the project.

Senator JOHNSON of California. You say the whole contribution is—

Mr. KENNY. I know of no contribution by Mexico, at this time.

Senator JOHNSON of California. The whole contribution is paid by the citizens of the United States?

Mr. KENNY. That is correct, Senator.

Senator JOHNSON of California. So we are engaged here in taking from the United States of America certain water and giving it to Mexico?

Mr. KENNY. That is correct, Senator.

Senator JOHNSON of California. That is all.

The CHAIRMAN. You favor giving them some?

Mr. KENNY. I am not in favor of giving it to them. I am in favor of being fair. I think under international comity they are entitled to the water that they used before we built this dam for them.

The CHAIRMAN. What does the treaty provide about the cost of this new dam that is to be built?

Senator JOHNSON of California. Which new dam?

Mr. KENNY. The Davis Dam.

The CHAIRMAN. The Davis Dam?

Mr. KENNY. My recollection is that that matter is left open in the treaty—without the treaty before me.

The CHAIRMAN. "Left open"? What do you mean by "left open"? Does not the treaty provide for the building of Davis Dam?

Mr. KENNY. My impression is that the treaty provides for the commission, and that this allocation will be determined by the commissioners, but I haven't the treaty before me, Senator. I could not say.

The CHAIRMAN. Very well. All right.

Senator JOHNSON of California. There is no doubt in the world that we are sitting here day after day devising some method by which we may give water to Mexico, and that water will cost Mexico nothing, and they do not pay 1 penny toward its production?

Mr. KENNY. I agree with that statement, Senator.

Are there any other questions?

Senator JOHNSON of California. It occurs to a poor old man that looks at this thing from one angle that we are engaged in a pretty unpatriotic design, here, when we are turning everything to the idea of

taking water from the United States and giving it to Mexico—and giving it to Mexico.

Mr. KENNY. I agree, Senator.

Senator JOHNSON of California. All right.

The CHAIRMAN. As a matter of fact, you refer to the Boulder Canyon Act; according to the language there, that should be used entirely by the United States. If Boulder Dam had never been built there would be a certain amount of water that would go on down the Colorado River, would there not?

Mr. KENNY. That is right.

The CHAIRMAN. All right. The dam was designed to store flood-water; is that right?

Mr. KENNY. That is right, Senator.

The CHAIRMAN. Do you, or not, contend that that language of the act was referring to the increased waters that would be accumulated by reason of the building of the dam, over the natural flow?

Mr. KENNY. Yes; we contend that Mexico is confined to what the natural flow would have been.

The CHAIRMAN. The natural flow?

Mr. KENNY. Yes, sir.

The CHAIRMAN. So any water impounded at Boulder Dam which makes electricity has got to be released?

Mr. KENNY. That is right, Senator.

The CHAIRMAN. When it is released, there is nowhere for it to go now except down the river?

Mr. KENNY. That is right.

The CHAIRMAN. And if Davis Dam is built far below that Boulder Dam, it will have a tendency to still further conserve the water, will it not?

Mr. KENNY. Absolutely.

The CHAIRMAN. So, would not that be an advantage to California and Arizona, to have that additional water conserved by the erection of the Davis Dam?

Mr. KENNY. It certainly would, Senator.

The CHAIRMAN. Would they not get increased benefit from that structure on both sides of the river over what they now have?

Mr. KENNY. Well, I cannot testify from memory just what areas would be benefited, but it would benefit our people.

The CHAIRMAN. On both sides of the river, would it not?

Mr. KENNY. Well, I assume so; yes.

The CHAIRMAN. That is on the assumption that they could use it, of course.

Mr. KENNY. Yes; surely.

The CHAIRMAN. I do not mean they could grow crops on the sky.

Mr. KENNY. That is right.

The CHAIRMAN. If they have got any land to grow crops on, the Davis Dam by its erection would be an increased advantage.

AFTERNOON SESSION

The committee reconvened at 2:30 p. m., upon expiration of the recess.

The CHAIRMAN. Let the committee come to order.

I understand the next witness is to be Mr. Swing, a former Member of Congress.

STATEMENT OF PHIL D. SWING, SAN DIEGO, CALIF.

The CHAIRMAN. I am glad to say at this point that I served with Mr. Swing when he was a Member of the House some years ago. I hold him in very high esteem.

Mr. SWING. Thank you, Mr. Chairman. Your expression of high esteem is fully reciprocated by me.

Before beginning my prepared statement, I should like to comment briefly upon two or three things that have been said, which may or may not be important, depending as some Senator may view them.

There was a statement made that in the original Boulder Dam fight, California and Texas made a trade.

The CHAIRMAN. There is no testimony in this record to that effect, is there?

Mr. SWING. I thought Senator Hayden made some mention of that. Senator WILEY. Did they not trade?

Mr. SWING. I was going to say that neither Senator Johnson nor myself know of any such trade; that Mr. Garner, who was the most active of the Texas Congressmen in favor of the Boulder Dam project, testified before the House Committee on Irrigation and Reclamation at the insistence of the opponents of the bill that there was no such trade or agreement or understanding.

The roll call on the bill in the House shows that Texas divided, as a good many other States did, according to their individual views on the merits of the bill. I am happy to express my appreciation of the fact that the chairman of this committee, then an honored Member of the House, voted in favor of the bill.

The terms of the bill itself, of course, precluded the possibility of any trade being negotiated between California and Texas, if by that is meant that Colorado River water was to be traded off to Mexico in return for Mexican water to Texas. I mention that merely because it might reflect on men who I think are honorable and who in their legislative opinions were above such practical political maneuvers.

The CHAIRMAN. Since you have adverted to myself, I should like to inquire whether I was recorded as voting for it or was merely paired.

Mr. SWING. In the December vote on the House receding and concurring in the Senate amendments you were recorded as voting favorably.

The CHAIRMAN. Well, that is correct. I thought maybe I was away during the previous vote.

Mr. SWING. You were not recorded as voting in the original vote in the House.

The CHAIRMAN. That was because I was at home, trying to get to the Senate. Just then the Senate was more important to me than the treaty. [Laughter.]

So far as the trade goes, I do not know anything about a trade. I assume that what was meant by Senator Hayden was not a trade in the strict sense of the word. How many Texans voted for it?

Mr. SWING. I think six in the last roll call.

The CHAIRMAN. You have the vote there, have you not?

Mr. SWING. Yes. There were six for passage and eight against passage.

The CHAIRMAN. I assume that what Senator Hayden meant was that the Texans who did vote for it were probably hopeful that Cali-

fornia might, when the time came to help somebody else, have a generous streak. We regret to note that it has not.

Mr. SWING. I said in the House at that time that while I, as a lawyer, agreed with the opinion of Judson Harmon, that no nation was obligated as a matter of international law, unless by a treaty, to let down any particular amount of water from the upper country to the lower nation, I did anticipate that our country, when it reached a treaty, would accord to Mexico in the Colorado River the amount that she had previously used; and that I hoped that we would get from Mexico a guaranteed return from her tributary sources on the Rio Grande of an equal amount to that which were guaranteeing Mexico out of American tributaries on the Colorado River. The amount, I believe, of the Colorado River guaranteed wholly from American sources is 1,500,000 acre-feet. The amount guaranteed wholly to Texas from Mexican sources is 350,000 acre-feet. But if that is agreeable to Texas, we of California, sympathizing with them in the position in which they are on the lower Rio Grande, hope that a way can be found for them to get the benefit of that portion of the treaty which is satisfactory to them, to wit, the Rio Grande portion, without compelling us to accept the unsatisfactory portion relating to the Colorado.

It was said by one of the attorneys for the International Boundary Commission—their attorney, I believe—that he thought that Judson Harmon's opinion of 1895, reported and published in 21 Opinions of the Attorney General 274, relating to the claims of Mexico on the Rio Grande, had never been followed. I am wondering if that witness was cognizant of the fact that in 1903 the Department of Justice rendered an opinion to the State Department, at the request of the State Department in response to a complaint of Mexico that on the Colorado River in the United States, at Yuma, there was a company preparing to pump large quantities of water out of the Colorado for use in Yuma Valley, Ariz., which Mexico complained of as an impairment of her rights.

Two Department of Justice attorneys were assigned to investigate the complaint and make a report on it. Their names were M. C. Birch and David D. Caldwell. In 1903 they reported that what the United States or citizens of the United States did on the Colorado River wholly within the boundary of the United States could not furnish a justifiable complaint from Mexico.

In 1929 the predecessor of the present International Boundary Commission, to wit, the International Water Commission of the United States and Mexico, of which Dr. Mead, Commissioner of Reclamation, was the head, and General Beach and a gentleman from Texas, Mr. Anderson, I believe, were members, made a careful and most exhaustive study of this whole problem that is now before us, including not only the engineering features but the legal and international features, in their report to Congress, House Document No. 359 of the Seventy-first Congress, second session. At page 14 they said:

As shown in the minutes, the American section presented the view that the jurisdiction of a nation within its own territory and over its own resources is necessarily exclusive and absolute and susceptible only of self-imposed limitations; but it proposed as an act of comity and friendship that the doctrine of prior appropriation, known in the law of both countries, be extended for the protection of existing users of water in Mexico from the Colorado and for the protection of existing users of water in both countries from the Rio Grande.

At page 64 of that report we read:

The United States commissioner bases his opinion in the following considerations:

The United States section cannot see its way clear to admit the position of the Mexican section that in endeavoring to determine the division of the waters of the Colorado River between the two countries, international boundaries should be ignored and the problem treated as if the territory involved belonged to a single nation, nor does it believe that the number of acres of land capable of irrigation in each country from the river should be taken as a basis for such division.

The Government of the United States has consistently held to the doctrine laid down by the Supreme Court of this country when it said:

"The jurisdiction of the Nation within its own territory is necessarily exclusive and absolute. It is susceptible of no limitations not imposed by itself. Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty to the extent of the restriction and an investment of that sovereignty to the same extent in that power which could impose such restrictions. All exceptions, therefore, to the full and complete power of a nation within its own territories must be traced up to the consent of the nation itself. (*Schooner Exchange v. McFadden*, 7 Cranch, p. 136)."

It has always been held that a nation has a full right within its own territories—

The CHAIRMAN. Are you quoting, now, or reading?

Mr. SWING. I am now reading from the Commission's report. That was the end of the Supreme Court decision. The report says:

It has always been held that a nation has a full right within its own territories of those resources which might be necessary for its development or for the comfort of its people.

Continuing with reference to this particular problem now before us, the Mead Commission said:

Were the flow of the Colorado River sufficient in quantity to supply the various sections of both countries desiring its waters for future development our task would be easy and simple. Unfortunately the demands are far beyond the volume which the river can provide, and these demands are so far reaching and of so great importance to the people of the United States that they are now preparing to spend \$400,000,000 in order to secure a full utilization of such water as the river carries. It does not appear that the United States is required, even in the proof of its friendship and good wishes for Mexico, to limit its own growth and abridge the comfort of its own citizens that a neighboring nation may be correspondingly benefited. Neither does it seem an act of neighborly kindness to itself appropriate the waters of the river to such an extent that people who have developed lands in Mexico and placed them under cultivation would be deprived of water and the lands forced back into wilderness. To avoid such a condition and to prevent loss to the holders of land in Mexico, the United States section believes that the Commission should recommend to the Governments of the two countries that the amount of water to be allotted to Mexico each year be the largest amount which has to this time been given to that country in any one calendar year. This quantity is practically 750,000 acre-feet. This quantity of water will permit of the undiminished continuance of the greatest agricultural activity which has yet occurred in this part of Mexico. The United States section regrets that it cannot see its way to recommend a larger amount to Mexico but believes that it is going as far as it properly can when it saves the existing users of water in Mexico from loss and feels that if it recommended an additional amount it would be recommending an injury to its own country. The section, in taking this action, is as liberal as any country has ever been or as the Supreme Court of the United States has been in determining questions of this character between the States.

Then follows a recital of the treaties of the various countries all over the world, including those which were referred to by the attorneys for the International Boundary Commission.

We think, therefore, that his statement that the Judson Harmon opinion had never been recognized or followed by our country is in error.

One other point that seems to be in doubt is whether or not, at the time the Boulder Dam project was authorized and construction begun, the low flow of the river had been fully appropriated and put to use. I can speak of that from personal knowledge, because I lived in the Imperial Valley. I was attorney for the Imperial Valley irrigation district before I came to Congress, and I was charged, in part, with the responsibility of trying to get for those American lands in that valley the necessary water with which to reclaim and to irrigate lands already under cultivation. Not once, but several times, the entire flow of the Colorado River was diverted at our Hanlon Heading and into Imperial Valley, and even then the amount of water was inadequate, with the resulting damages running into millions of dollars in each of those several shortages, and in the largest of which the losses amounted to \$10,000,000.

The CHAIRMAN. While you are on that point, you say the entire flow was diverted?

Mr. SWING. The entire flow was diverted. I have walked across the dry bed of the Colorado River below the Sand Dam, which forced the water into the heading.

The CHAIRMAN. How many acre-feet did that amount to?

Mr. SWING. I do not at this minute recall, but it was not enough to supply by more than half the requirements of Imperial Valley.

The CHAIRMAN. You took the entire flow out by a dam across the river?

Mr. SWING. Yes.

The CHAIRMAN. How much did you give to Mexico or sell to Mexico?

Mr. SWING. I do not recall.

The CHAIRMAN. You did, during that time in which you say you suffered a loss—

Mr. SWING. We had no choice.

The CHAIRMAN. Please let me ask the question. You did, during the time you say you suffered this \$10,000,000 loss, sell water to Mexico and get paid for it, did you not?

Mr. SWING. We were delivering water of necessity to Mexico.

The CHAIRMAN. Were you or were you not?

Mr. SWING. Yes.

The CHAIRMAN. I want to have you answer the question; you can explain later on.

Mr. SWING. The answer is "Yes."

The CHAIRMAN. You were selling water and getting paid for it?

Mr. SWING. The answer is "Yes." I should like to explain that the water we sold to Mexico never paid the costs of operations in Mexico. It was an imposition upon the Imperial Valley, not by reason of their own choice, but by reason of preexisting private company which went broke trying to furnish water to Imperial Valley, and in self-defense we had to take over the system; and immediately we took over that system, we started to work trying to free American Colorado River water from the domination and control of Mexico. The Boulder Canyon Project Act and the All-American Canal were the first step in trying to get that done. We are here today still trying to protect the American Colorado River water from Mexican demands.

The CHAIRMAN. May I ask you another question on that? Are you now selling water to Mexico through the Imperial Valley Canal?

Mr. SWING. We are. And I will answer that in this way: We still are not being paid the actual costs of the operation of the system. Rates are fixed by the Secretary Fomento, who is the same as the American Secretary of the Interior. We have no control whatever over the rates; he fixes the rates as to what they will pay, and I assure you there is no profit in it. We do it because we feel we will be open to criticism should we suddenly shut down and deny Mexico what she has previously used. We have communicated with the State Department and have asked them to place a limitation on the amount of water we should deliver to Mexico, and the reply has come back, "You may deliver to them as you have in the past," and that is simply as they order.

The CHAIRMAN. You contend you have the right to withhold all water from Mexico if you want it put through that canal?

Mr. SWING. I think that is a correct statement.

The CHAIRMAN. If you are doing it at a loss, why do you not stop?

Mr. SWING. The reason why is that we have consulted with the State Department, and they have told us to continue.

The CHAIRMAN. No; they told you you could continue.

Mr. SWING. They told us to continue as we have in the past.

The CHAIRMAN. You change your mind. Is that in writing?

Mr. SWING. It is in writing, and it will be introduced here for your scrutiny.

The CHAIRMAN. They instructed you, then, to continue?

Mr. SWING. I did not use the word "instructed."

The CHAIRMAN. You said they told you to.

Mr. SWING. We asked their instructions, and they wrote us back a letter, if you want to call it instructions.

The CHAIRMAN. I will wait until I see the letter.

Mr. SWING. The letter will be submitted.

The CHAIRMAN. How many acre-feet did you furnish Mexico during the past year through that canal?

Mr. SWING. The records will be presented. I do not carry the figures in my mind, and I am not an officer of the Imperial irrigation district so I do not know.

The CHAIRMAN. You represent the Imperial Valley irrigation district just like you represent all California interests?

Mr. SWING. Oh, in that broad, comprehensive way, I am willing to agree to represent the best interests of California. I have no specific assignment from the Imperial irrigation district.

The CHAIRMAN. I do not mean to inquire into that. I say, you represent them like you represent all the interests of California?

Mr. SWING. Yes, sir.

The CHAIRMAN. The reason I asked you that was that you stated in your own testimony, without any questions from me, that you had been attorney for the Imperial Valley district when these transactions had taken place, and I thought probably from your employment you would have some general idea of how much water will be furnished Mexico through the canal. If you do not know, it is all right.

Mr. SWING. It has been enough water to supply approximately 200,000 acres of land.

The CHAIRMAN. How many acre-feet does it take for an acre of land?

Mr. SWING. The maximum for that tract of land is about 750,000 or 800,000 acre-feet.

Mr. SWING. Now, with reference to the testimony—it has come from more than one source, which I have in part already, I think, refuted, making the people of the Imperial Valley appear in the character of a villain, whereas in fact they are the victim in this controversy. I have stated that the people of the Imperial Valley have spearheaded the fight from the beginning to try to free American water from Mexican control, which Mexico had as long as the necessary supply of water ran through Mexico, which was a physical condition for which they were not responsible, but which was created by a preexisting private company.

Senator WILEY. Created by what?

Mr. SWING. By a preexisting private company which went bankrupt.

The Imperial irrigation district, let me just add on that one point, owns nothing in Mexico. There is a Mexican private corporation to whom the Mexican Government issued a charter, sometimes referred to in this testimony as a concession. There is no contract and there never has been any between the Imperial irrigation district and this Mexican company by which the Imperial irrigation district agreed to deliver any quantity of water to Mexico. The Imperial irrigation district is not now under any obligation to deliver any quantity of water to Mexico and does not want to deliver any quantity of water to Mexico in excess of what our own Government is willing that we should deliver; and any limitations that they will, indeed, suggest, will be gladly, completely, and wholeheartedly carried out by the district.

The Pilot Knob plant was referred to this morning, but no explanation was given by the witness for the reason that the Attorney General was not familiar with the physical and legal facts in that connection. The Pilot Knob is on the wasteway constructed by the United States Government as an integral and necessary part of the All-American Canal for the efficient and successful operation of it, and in that All-American Canal contract the United States Government, through its Reclamation Bureau, built an excess capacity of 3,000 second-feet down to the Pilot Knob plant and has charged the Imperial irrigation district with the repayment of that cost as well as building a 2,000 second-foot capacity from Imperial Dam down to Siphon Drop, to carry the water of the Yuma reclamation district, for which the Imperial district is charged with the cost; and in that contract, as Senator Johnson this morning so clearly pointed out, there is retained control by the Secretary of the Interior as to what water can be carried down in that excess capacity through Pilot Knob, and it is only such water as is available in the river, not required for other purposes, and even that can only be delivered to Mexico with his consent.

The proposal at Pilot Knob is no different from what is taking place at Siphon Drop. There, as was testified to earlier, 2,000 second-feet are diverted at Imperial Dam, and carried down the All-American Canal and dropped through a power plant at Siphon Drop to generate power and make that power available to the people of Yuma. Only 400 second-feet of that water are actually required for the lands in the Yuma Valley. The rest of it is taken as waste water, surplus water, water that is going down the river to Mexico anyway, and run-

ning it through the power plant to get some value out of it for the American people instead of letting it waste idly to the sea.

The same thing was proposed and agreed to by the United States Government in the contract with the Imperial irrigation district: That whatever waste water there was at the Imperial Dam, which is the lowest and last diversion for use within the whole Colorado River system in the United States, might be diverted by the Imperial irrigation district and run down and dropped through the Pilot Knob plant back into the river, except only to such extent as the Secretary of the Interior might designate the portion thereof which should be delivered to Mexico, which, of course, would be governed by our international policy dictated by the State Department. That is not merely in the contract written by the United States Government but it is written into the law, the Boulder Canyon Project Act. By that declaration, Congress says that the Imperial irrigation district and its associate districts using the canal may have the power possibilities. It was recognized, I take it, that the Imperial Valley people in trying to throw off the yoke of Mexican control by reason of the fact that their life waters—every drop of drinking water, every drop of stock water, every drop of irrigation waters—had to come through Mexico, and that the cost of the All-American Canal would be tremendous, and the fact that it was in part in the interest of the rest of the United States to get the Imperial Valley out of that dangerous situation, it was provided, contemplated, and agreed to that the power possibilities on the dam of the All-American Canal might be utilized by the Imperial irrigation district to help repay the cost of the All-American Canal. The Boulder Canyon Project Act so provides.

That completes my preliminary rebuttal, as I call it, and with your permission I should like to take up the topic assigned, which is to furnish the legal background or legislative history of the laws which California claims constitute the foundation and framework for their contractual rights, which they feel have been ignored and violated by this treaty. In their chronological order they are:

First, the act of Congress of August 19, 1921, authorizing the seven Colorado River Basin States to negotiate a compact, and the compact itself as entered into by those representatives in accordance with that act. You have heard much about it, and I will undertake to discuss that.

Then comes the Boulder Canyon Project Act of December 21, 1928, which set up and laid out this structure I claim for the whole Colorado River Basin.

Then comes the California Limitation Act, which California was required to pass before the Boulder Canyon Project Act would become effective or operative.

Finally, there are the five water contracts and the seven power contracts made by the United States Government with California agencies for the use of Boulder Dam water for the generation of electricity and for the irrigation of lands, and for the domestic use by cities on the Pacific coast.

The CHAIRMAN. Have you available sample copies of the power contracts? If you have, they should go into the record.

Mr. SWING. The power agencies will speak a little later, Mr. Chairman, and they will then present those contracts.

The CHAIRMAN. All right.

Mr. SWING. At a later date the United States has entered into, and there are now in force and effect, two additional contracts—one with the State of Arizona for 2,800,000 acre-feet per annum, plus one-half of the surplus or excess water in the river, less a certain small amount for Nevada, and a contract with the State of Nevada for 300,000 acre-feet, plus a small part of the excess or unapportioned water.

I shall now take up the Colorado River compact. The thing that prompted the occasion or demand for a Colorado River compact was the more-rapid development in the lower basin compared to that in the upper basin. But specifically it was the fear created in the minds of the people of the upper basin by the growing demand for the Boulder Dam project. The upper States feared that if a big dam were built on the lower half of the river and the All American Canal built to take its waters to irrigate new lands in the Imperial Valley and the Coachella Valley and the Colorado River aqueduct built to carry water to the Pacific coast to some 10 or 12 or more cities, and particularly if power were generated at the dam, those things would constitute beneficial uses which might establish rights over all the remainder of the unused portion of the river and so stop, or at least handicap, future development of projects in the upper-basin States.

So, accordingly, the upper-basin States began to oppose any important projects for development in the lower basin until such time as they might receive in some legal form an assurance that the law of appropriation, which applied in all those Western States, would not operate against them, and, notwithstanding these prior developments in the lower basin the upper-basin States would still retain the right to make their development when, as, and if they pleased, without regard to the prior development in the lower basin. In other words, the compact amounts to the lower basin giving to the upper basin a quitclaim deed to 7,500,000 acre-feet of water and saying that at any time in the future, no matter if it is 100 years or 200 years in the future, whenever they get around to using that, it shall be their water.

If that water flows down into the lower basin, we, of course, may put it to use but we put it to use with the knowledge and with notice that it can and will be recalled whenever the upper-basin States are ready to use it themselves. So they demanded this compact or, as I call it, quitclaim deed, and California agreed. I call this in one sense of the word the first payment by California in its effort to get the Boulder Dam project.

It is a rather serious thing to agree that the established uniform law of all these States can be set aside. It would have been advantageous to California to have proceeded under the appropriation law and to have made secure its rights under that general, recognized law and put the water that it was able to pick up to beneficial use, with the protection and benefits of the appropriation law against and of the upper-basin States.

In the first year that I was in Congress, Mr. Delph Carpenter, of Colorado, who was the author of the plan for a compact, came to Congress and presented his proposed bill and his argument in favor of it. The act was quickly passed, and Herbert Hoover, then Secretary of Commerce, was appointed by the President as Federal representative. Each of the Governors of the seven basin States appointed a rep-

representative. The first meeting was had here in Washington, and then subsequent meetings were held throughout the Colorado River Basin. Finally, at Santa Fe, N. Mex., on November 24, 1922, the compact was drafted and signed in its present form. However, it did not go into immediate effect until the Boulder Canyon Project Act picked it up, made it a part of the act, and approved it in that act.

It has been claimed here, as I understood the testimony, that this compact apportioned water to Mexico. This contention is based upon the wording of article 3 (a), 3 (b), and 3 (c) of the compact. As I recall, the State Department had these three sections put upon a chart and presented to the committee here, and I understood that the claim of Mr. Clayton was that under that compact Mexico was allotted water. We think that others following will probably make the claim and, therefore, we feel it necessary to anticipate it and call your attention to the language itself and to what the reasonable interpretation of it, we think, necessarily is.

Section 3 (a) was the apportionment of 7,500,000 acre-feet each to the upper basin and the lower basin.

Section 3 (b) was the addition of 1,000,000 acre-feet permissive use to the lower-basin States.

Article 3 (c) is [reading]:

If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such waters shall be supplied first from the waters which are over and above the aggregate of the quantities specified in paragraphs (a) and (b); and if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the upper basin and the lower basin, and whenever necessary the States of the upper division shall deliver at Lees Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d).

Paragraph (d) simply provided that over a 10-year period the upper-basin States would let down an aggregate of 75,000,000 acre-feet.

The CHAIRMAN. I do not want to bother you, but the upper basin has 7,500,000 acre-feet and the lower basin 7,500,000. That would be 15,000,000.

Mr. SWING. Plus 1,000,000 additional to the lower basin, making 16,000,000 acre-feet.

The CHAIRMAN. The language that you just read provides that in the future some allocation might be made to Mexico, in which event, if the surplus water was not sufficient, then the amount would be reduced?

Mr. SWING. That is the reading of the language.

The CHAIRMAN. Then they contemplated that there would be an allocation to Mexico sufficient not only to consume all the surplus, but to eat into part of the allocation to the lower basin?

Mr. SWING. That is not our interpretation, and I will proceed now to explain why it is not.

The CHAIRMAN. Whether it is your interpretation or not, that is just what you read.

Mr. SWING. What I read was what I read. I will give you my interpretation of it.

We contend, in the first place, that the Colorado River Commission, which negotiated the compact, had no power to apportion any water to Mexico even if it wanted to; and, in the second place, we believe that it did not even attempt to do so.

The CHAIRMAN. I do not think anybody contends that the compact allocated any power; it had no authority to do that.

Mr. SWING. That is the effect of the argument, as I understand it. California relied on the contract—

The CHAIRMAN. There is no contract that requires the United States Government to deliver to California more water than is guaranteed by the compact.

Mr. SWING. The United States does not guarantee to deliver any water from the upper basin. That is purely a State matter.

The CHAIRMAN. Take the lower basin. It does not guarantee delivery of any more water than is assigned to the lower basin by the compact, does it?

Mr. SWING. All the water in the river flowing down below Lees Ferry after the upper-basin States have taken out their allotted water—water that is available for use in the lower basin.

The CHAIRMAN. Just a moment. You believe in the doctrine of prior appropriation do you not?

Mr. SWING. In the United States; yes.

The CHAIRMAN. You do not hold that if you did not have any compact at all, all of the upper-basin States could, if they wanted to, and it were possible, take all of the water out of the river and not give California any, do you?

Mr. SWING. I think that water used beneficially in the upper-basin States would never be taken away from them by any court.

The CHAIRMAN. In other words, you mean that they could dam up the river and make reservoirs in the upper basin and use every drop of water in the upper basin, and the lower-basin States could not complain?

Mr. SWING. You understand what the law of appropriation is.

The CHAIRMAN. You can answer that question, can you not?

Mr. SWING. The law of appropriation is—

The CHAIRMAN. Before you tell us that, do you understand my question?

Mr. SWING. Yes. The answer to your question is "No."

The CHAIRMAN. All right. It is answered.

Mr. SWING. For this reason: You have got to know when the upper-basin States are damming up the water. Everything must be in relation to the time when the use or appropriation has been made. The upper-basin States' uses do give them the right to hold back water from the lower basin—

The CHAIRMAN. I am entirely in agreement with you on that, and that is why I said you did not contend that if the upper basin could do it, it could impound all the water and not let any water get to the lower basin.

Mr. SWING. The answer to that is "No," because there are prior uses in the lower basin.

The CHAIRMAN. There is no difference between us on that.

Senator McFARLAND. I do not understand your previous statement. Did you say that you took the position that the lower-basin States had the right to use all the water that might flow down the stream?

Mr. SWING. Yes; all the water that is physically present, Senator.

Senator McFARLAND. You would not let any of it go down to Mexico at all?

Mr. SWING. We are discussing the rights between the upper basin and the lower basin.

Senator McFARLAND. No; I mean, before you got into that discussion.

Mr. SWING. Yes, Senator, as a matter of international law.

Senator McFARLAND. I just wanted to understand your statement.

Mr. SWING. That was my statement as a matter of international law.

Senator WILEY. You claim that the compact apportioned the water for each of the States?

Mr. SWING. The apportionment was not by States, but by upper basin and lower basin. It amounted to the lower basin giving the upper basin a quit-claim deed on 7,500,000 acre-feet of water. We agreed never to complain at any time in the future if they used it.

The CHAIRMAN. You would have had difficulty in using the water in the upper basin. California could not reach up there and take it. So there was a quit-claim as to something that they did not have any title to.

Mr. SWING. What they were doing was repealing the law of appropriation by the compact.

The CHAIRMAN. You do not contend that the doctrine of prior appropriation applies as between nations. You think it applies between individuals and States but not countries?

Mr. SWING. It could not apply between nations, because there is no forum which could enforce it.

The CHAIRMAN. You put it on the cold basis of power. There is no power that would support it?

Mr. SWING. I put it on both bases.

Senator WILEY. You claim that there is no international treaty that has application?

Mr. SWING. That is absolutely true and I also say that there is no international law.

To go back to the language of section 3 (a), I want to read with my emphasis or my interpretation article 3 (c) of the compact, indirectly if not directly negating the idea that Mexico has any right in the Colorado River. The language is:

If, as a matter of international comity—

I start off with the word "if" and emphasize the word "comity"—

the United States of America hereafter recognizes—

It did not recognize any at the time—

hereafter recognizes in the United States of Mexico any right to the use of any water of the Colorado River system—

That language, it seems to me, does not recognize the establishment of any water right in Mexico as of the date of the compact.

Senator WILEY. May I ask a question right there?

The CHAIRMAN. Go ahead.

Senator WILEY. Was not the intent there expressed quite definitely that the contracting parties, the parties to the compact, agreed that if in the future the Federal Government did enter into a treaty with Mexico, the Federal Government would have that power?

Mr. SWING. On the question of intent I am going to quote Mr. Hoover as to what their intention was. Of course when you have

language in front of you, any lawyer can interpret the language. In case of doubt of course you find out what the parties meant, putting yourself in the position of those who negotiate it. Mr. Hoover apparently was in a position to know what they intended, and I shall quote him in just a moment.

Senator WILEY. I will listen with interest. I have a great deal of respect for that gentleman.

The CHAIRMAN. You think he could make it more clear than the instrument itself?

Mr. SWING. I think so.

The CHAIRMAN. Why did they not adopt his language, then?

Mr. SWING. Let me read the act of Congress which gave its consent to the negotiation of the compact. Certainly an agent has no greater authority than his principal delegates to him. So, on August 19, 1921, Congress passed a statute giving its consent to the negotiating of the treaty and authorizing the appointment of a Federal representative. The language of the act is as follows:

That consent of Congress is hereby given to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming to negotiate and enter into a compact * * * providing for an equitable division and apportionment among said States of the water supply of the Colorado River and the streams tributary thereto * * *.

Nowhere in the act is there any authority, express or implied, to apportion any water to Mexico or make any provision for a possible future treaty.

Senator McFARLAND. If you got any idea from my discussion that I thought the compact established a water right in Mexico, I want to disabuse your mind of that idea, because certainly I do not.

Mr. SWING. Thank you, Senator. I was worried about what I understood to be your position.

Senator McFARLAND. What I did say and what I would say now is that the contracts that Arizona and California have made with the Secretary of the Interior are subject to the compact which made provision for the supplying of any water that may be allotted to Mexico under the treaty.

Mr. SWING. I agree with you that they are subject to the compact. Now we will see what that expression means.

Senator McFARLAND. If you had the idea that I thought there had been a water right so that we would not need a treaty—

Mr. SWING. I thank you for disabusing my mind on that point.

At pages 396 and 397 of the Government-published book entitled "Hoover Dam Contracts"—

The CHAIRMAN. What is the name of that dam, now? Is it Boulder or Hoover, or Mead, or what is the name of it?

Mr. SWING. I can only say what Senator Johnson once on the floor of the Senate said when he was asked that question. His reply was, "A rose by any other name would smell as sweet." So I ask your indulgence not to engage in what appears to have been and probably still is a controversy.

Mr. Hoover was propounded a long list of tremendously interesting questions; and I think we owe Mr. Hayden a debt of gratitude for his seizing the opportune time immediately after this compact had been written, while all the facts and records were still before him and fresh

in his memory, to bring out an explanation of all of the various provisions of this compact.

Senator MURDOCK. You may have done this in my absence, but I have not heard you, since I have been here, tell the committee why any question should be propounded to Mr. Hoover. Who was he at that time?

Mr. SWING. Mr. Hoover had been designated by the President of the United States as Federal representative.

Senator MURDOCK. That is the point that I wanted to bring out. He was appointed by the President?

Mr. SWING. To represent the Federal Government itself. When he spoke we must presume that he was speaking for the Federal Government and giving the Federal Government's interpretation of what they construed this compact to mean, from the standpoint of the Federal interests and the Federal point of view.

Senator MURDOCK. Because he was appointed to negotiate and consummate a compact, does it follow that he also had the power of interpretation which would be binding on the Federal Government?

Mr. SWING. I will answer that in this way. The answer, of course, is no; but these questions were put into the Congressional Record by Mr. Hayden immediately after he had received them from Mr. Hoover. They were published in 1933 in a Government document which has been widely circulated and which is supposed to contain everything except the Atlantic Charter, with reference to the Colorado River problem.

The CHAIRMAN. That is one document that you are not basing your claims on.

Senator WILEY. Are you sure it is not in there?

Mr. SWING. They were published in various State reports to their legislatures. To this day I have never heard or have never seen a criticism of Mr. Hoover's explanation of what the treaty meant. There may be criticisms, but they have not come to my attention; and so I take it that with perhaps some small exceptions they have been accepted as accurate.

With reference to what section 3 (c) meant, Mr. Hoover replied:

No. Paragraph (c) of article III does not contemplate any treaty.

That is his statement.

The CHAIRMAN. If it did not contemplate a treaty, what did it contemplate?

Mr. SWING. I will read his answer to that question:

There is certainly nothing in the compact which requires any water whatever to run unused to Mexico or which recognizes any Mexican right, the only reference to that situation being the expression of the realization that some such rights may perhaps in the future be established by the treaty. As I understand the matter, the United States is not bound to recognize any such rights of a foreign country unless based upon treaty stipulations.

I take it that he said that not as an engineer, but after he had been advised legally by the proper Federal legal authorities.

And again he said:

As already stated, there is no reference in the compact to any rights of any persons in Mexico; none are created; none are recognized. That entire question, if it ever arises, must be dealt with by the Federal Government in the exercise of its treaty-making power. Such a subject was beyond the purview of

the acts creating the Commission and it was intentionally omitted from the compact.

I think that is a conclusive answer to the question as to whether or not the compact allocated any water to Mexico.

Senator WILEY. I believe that is true. I do not think anyone could dispute that conclusion. But is there not another conclusion that one must reach, from the English language, and that is that when you read that language into the compact between the States, it was contemplated that in the future there might come a time when the Federal Government might think it advisable to enter into a treaty with Mexico in relation to this subject, and that the contracting parties recognized that fact.

Mr. SWING. I think that is true, of course. We all had knowledge of the Constitution and the treaty-making power of the United States. But any treaty that the United States Government makes becomes the supreme law of the land. That is why we are here before this treaty is ratified, before it becomes forever the supreme law of the land, to raise what we call moral questions and questions of good faith on the part of the United States Government when it entered into the compact, at which time it was able to fully perform it. We ask the question whether it has a right subsequently to disable itself from being fully able to perform it, as a matter of good faith and of national policy, particularly when to do so will violate an act of Congress, as I shall point out in my next subject.

Senator MURDOCK. In the compact, in the same article, we find a provision which looks ahead many years to an apportionment of whatever waters are not covered by the compact. As I recall the language of the compact, I think the date is fixed at 1960, providing that if either one of the basins at that time has utilized or used all of the water that it is entitled to use for beneficial consumption, there will be another apportionment of any surplus waters.

Now, the question I have in my mind is whether you construe that as a prohibition on the United States Government entering into a treaty until after that date. It would give both basins ample time to know pretty well just what their requirements were going to be.

Mr. SWING. I think the United States Government or its negotiators should have had that in mind particularly. I am going to come to that in section 15 of the Boulder Canyon Project Act in which Congress authorized a comprehensive program as a part of the Boulder Canyon Project Act; in other words, a part of the dedication of this water. I think you are perfectly correct in pointing that out.

Senator MURDOCK. I do not want you to get the idea that I construe it that way, but I am wondering if that is the construction which you place on it. I think it probably is susceptible to that interpretation.

Mr. SWING. I think it is susceptible of that interpretation.

Now I come to the Boulder Canyon Project Act which, with Senator Johnson, I had the honor of sponsoring jointly. I feel that I can point out and explain some of the provisions of that act which have a bearing upon the question of whether the treaty should be ratified or not.

I charge, and the witnesses who will follow me will prove, that this treaty openly and directly violates both the spirit and the express provisions of the Boulder Canyon Project Act. I insist that the officers of the State Department are not above the law and that they have no

right to ignore a declaration of Congress contained in the Boulder Canyon Project Act in the negotiation of a Mexican treaty. And that is just exactly what I claim they did.

Since I am going to follow this act through, I think it will facilitate us both if I hand you each a copy of that act at this time. On the first page, where I have marked "One," is where I conceive there is an appropriation of the floodwaters of the river in excess of the low flow to specified purposes, all within the constitutional powers of the Federal Government, for the purpose of controlling floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of stored waters thereof, for the reclamation of public lands and other beneficial uses exclusively within the United States.

I could not understand what Mr. Clayton, the witness for the International Boundary Commission, meant when he said that that language had been overemphasized. How can a clear declaration of national policy and purpose be overemphasized, unless it is found to be embarrassing to the intent and purpose of the person so complaining?

This project was to be a self-supporting and financially solvent undertaking; and the Secretary was authorized to build a dam in Black Canyon and also a main canal and appurtenant structures; and it repeats the expression, "entirely within the United States," bearing out the first declaration that the stored floodwaters were exclusively for beneficial use within the United States.

It provided for a main canal connecting the diversion dam. That is a good many miles below Boulder Dam, near the old Imperial heading and near the Yuma diversion heading, connecting said dam with the Imperial and Coachella Valleys, and also providing that the expenditure for the canal and the appurtenant structures was reimbursable.

Now let me begin at the bottom of page 2:

This act shall not take effect and no authority shall be exercised hereunder and no work shall be begun and no moneys expended on or in connection with the works or structures provided for in this act, and no water rights shall be claimed or initiated hereunder, and no steps shall be taken by the United States or by others to initiate or perfect any claims to the use of water pertinent to such works or structures unless and until—

the Six-State Compact is ratified.

Then, over on page 3 the requirement—

and, further, until the State of California, by act of its legislature, shall agree irrevocably, and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, as an express covenant and in consideration of the passage of this act, that the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River for use in the State of California, including all uses under contracts made under the provisions of this act and all water necessary for the supply of any rights which may now exist, shall not exceed 4,400,000 acre-feet of the waters apportioned to the lower basin States by paragraph (a) of article III of the Colorado River compact, plus not more than one-half of any excess or surplus waters unappropriated by said compact, such uses always to be subject to the terms of said compact.

I pointed out a while ago that in the compact California gave up whatever rights or advantages she might have under the prevailing law of appropriation, to rush in and, with her superior financial re-

sources, construct projects to put the water to use, and to gain an inordinate share of the Colorado River; but we waived that law, gave it up, agreed to sign a quit-claim deed to the upper-basin States in perpetuity, that they might be free from the well-recognized law of appropriation.

Senator McFARLAND. I thought you said a minute ago, Mr. Swing, that they were already using all the water in the river and could not appropriate any more water to Imperial Valley or Mexico or anywhere else.

Mr. SWING. We might have built a dam of our own some place else. This was without regard to where a dam was built, or whether it was built by private parties, private power companies, or by the State or by the Imperial irrigation district. I think no one will dispute that the low flow of the river had been fully appropriated to beneficial use.

The CHAIRMAN. How much water now is California getting out of the Colorado River, in acre-feet, annually?

Mr. SWING. I do not know the exact figure, but it is probably as much as all of the upper basin States are using put together.

The CHAIRMAN. I mean in acre-feet. You agreed not to use over 4,000 000 acre-feet. Are you getting that much water out of the river now?

Mr. SWING. I think so.

The CHAIRMAN. Will you have that verified by your engineers?

Mr. SWING. They will appear, and I would prefer, of course, that you ask that question of them.

But, of course, that does not determine your rights, either under the law of appropriation or under the contracts which we will present to you and explain to you in detail.

The CHAIRMAN. Do you consider that in addition to the language of the act the contract had the effect of expanding that and taking water away from these other States?

Mr. SWING. Oh, no.

The CHAIRMAN. That is what it says here; is it not?

Mr. SWING. No; I do not agree to that interpretation.

The CHAIRMAN. It says, "for the benefit of the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming." If there are any other States out there, I do not know it.

Mr. SWING. The assumption, perhaps a violent one, was that they were willing to have California have this limitation.

Senator LUCAS. How would this treaty affect that part of the statute which you just read?

Mr. SWING. It is the opinion of our engineers, based upon all the records of the river, that there have been two decades in which the low flow of the river has been such that it would be impossible for the United States to comply with these contracts and at the same time give Mexico 1,500,000 acre-feet. Therefore since the treaty right is a guaranteed right, and since a treaty is the supreme law of the land and overrides, if ratified, Federal or State statutes and contracts, it would mean that some community is going to suffer. I do not know whether it will be Arizona, California, Utah, Nevada, or Wyoming, but somebody is going to be hurt, because when we have agreed to deliver more water than is according to the records, there is only one conclusion you can draw, and that is that there has got to be a deficiency and somebody has got to suffer.

The CHAIRMAN. You said a while ago that the contract had the effect of enlarging your rights over and above the language of the compact which was quoted at 4,400,000 acre-feet. Is that right?

Mr. SWING. I will tell you my interpretation of the compact.

The CHAIRMAN. Let us get down to the law of this matter.

Mr. SWING. That is what I am going to come to right now.

The CHAIRMAN. Is it not a fact that every one of your contracts that you talk about with the Government, which you say cannot be abrogated by the treaty, contains this clause—

Subject to the availability thereof for use in California under the Colorado River compact and the Boulder Canyon Project Act?

Mr. SWING. Certainly.

The CHAIRMAN. Then what do you mean when you say that the contract guarantees you more water than either the compact provides or the Boulder Canyon Project Act provides?

Mr. SWING. What that language means is that all of California's contracts added together, plus all of Arizona's rights, plus all of Nevada's rights, must not exceed the amount of water and must not encroach on the water allocated to the upper basin States of 7,500,000 acre-feet.

The CHAIRMAN. I am talking about California now.

Mr. SWING. All of California's contracts added together shall not exceed 4,400,000 acre-feet plus one-half of the excess or surplus.

The CHAIRMAN. If available?

Mr. SWING. Oh, yes; if available in the river.

The CHAIRMAN. And subject to the compact and the Project Act?

Mr. SWING. Yes; but it does not say subject to the Mexican treaty.

The CHAIRMAN. No; I know it does not—if you want to adopt that sort of tactics in answering my question. I am trying to get the facts.

Mr. SWING. That is the fact.

The CHAIRMAN. You said a while ago, if I understood you correctly—and if I did not, I want to be corrected—that these contracts had the effect of entitling you to more water than was provided either in the compact or the act. Did you not say that?

Mr. SWING. I do not know what the record will show on that.

The CHAIRMAN. That is what I understand you to say.

Mr. SWING. That is what I intended to say. You take the 5,362,000 acre-feet named in the California contracts; you take the 2,800,000 acre-feet named—

The CHAIRMAN. I understand all that.

Mr. SWING. You take the 300,000 acre-feet and you add to that 1,500,000 acre-feet to Mexico, and the Reclamation Bureau will tell you that during these low decades which we have had twice in the last 47 years, it cannot be done, and somebody is going to have to give up water.

The CHAIRMAN. All I care to comment is that you have not answered my question.

Mr. SWING. I cannot answer it to your satisfaction.

The CHAIRMAN. You did not answer it at all. You began talking about adding other things to it, when I was interrogating you about California only, and then you made some flippant remark—

Senator JOHNSON of California. You can edit your own remarks.

Mr. SWING. You ask me any question you want to.

The CHAIRMAN. I do not care to ask any more questions.

Mr. SWING. I am sorry.

Senator WILEY. Is not the gist of the difference here found in article X of the treaty, where it speaks of a guaranteed annual quantity of 1,500,000 acre-feet? That seems to be the nub of the whole thing.

Mr. SWING. Yes.

Senator WILEY. If there could be an equitable apportionment there would be no objection to the treaty. Am I correct in that?

Mr. SWING. You are correct. As was said by the Attorney General at El Paso the Committee of Fourteen agreed to an arrangement whereby Mexico was to have water for 800,000 acres when the discharge from Boulder was 10,000,000 acre-feet a year. If more her apportionment went up; if less her apportionment went down. That is what I would call an equitable arrangement.

Senator WILEY. Then the whole difference here is based upon the fear that you would have drought periods in the future resulting in a reduction to American citizens?

Mr. SWING. Yes, sir; as we have had in the past.

Senator McFARLAND. I would like to ask you one question in order that I may better understand your statement in regard to the law. It may be that you are coming to this point. It is an engineering question. Do your engineers agree with the testimony of the engineers of the State Department that after Boulder Dam was constructed the normal flow was such that Mexico could have appropriated over 1,500,000 acre-feet of water?

Mr. SWING. I think there is no question about that, Senator.

Senator McFARLAND. I just wanted to get what the facts were and whether you agreed as to the engineering fact.

Mr. SWING. May I answer that further?

Senator McFARLAND. Yes.

Mr. SWING. By the use of American facilities. For instance, from the Yuma project they must get water out of Arizona works. On the California side they must get this water out of our irrigation works. There are no diversion works in Mexico.

Senator McFARLAND. All I am trying to do is to find out what facts you have in mind in your discussion here. You do admit that there would have been sufficient normal flow after the construction of the Boulder Dam, more than there would have been if the dam had not been constructed. There would have been a sufficient amount of water for Mexico to have appropriated it for their use, assuming they had the facilities?

Mr. SWING. You say, if the dam had not been constructed?

Senator McFARLAND. Yes.

Mr. SWING. No, Senator. I do not agree to that. I thought you meant after the dam was constructed.

Senator McFARLAND. I just want to be sure that you understood my question. The testimony here was to the effect, as I understood from the engineers, that there was normal flow sufficient, or would have been sufficient normal flow in the river had the dam not been constructed, and Mexico could have used 1,500,000 acre-feet?

Mr. SWING. That absolutely is at variance with the facts.

Senator McFARLAND. Your engineers will not agree with that?

Mr. SWING. That certainly is not agreed to by our engineers.

Senator McFARLAND. I did not want to interrupt you.

Mr. SWING. I wanted to explain one additional reason. Even in wet years they did not have the facilities or the right under existing treaties to take any water out of the Colorado River, in Mexico, or along the common boundary line.

Senator McFARLAND. I did not to get into the matter of facilities. I wanted to find out whether you agreed that the water was available or not.

Mr. SWING. No. There have been too many records of drought years to sustain that statement.

Senator McFARLAND. Were there any drought years between 1928 and 1944?

Mr. SWING. 1934, Senator, was the record low year.

Senator McFARLAND. But were there any years in which that amount of water was in the river that they could have appropriated?

Mr. SWING. I will ask you to ask the engineers that question. I understand there would have been some years, but there would not be a permanent agricultural development in Mexico, because of the drought years.

Senator McFARLAND. You would agree with me that because there might be a drought one year it would not prevent a man from establishing water rights?

Mr. SWING. Not 1 year.

Senator McFARLAND. Or 2 years?

Mr. SWING. It depends upon what is a dependable low flow of the stream.

Senator McFARLAND. I do not want to get into a discussion with you on that. I just wanted to find out what facts you had in mind. I will wait until your engineers testify, and ask them.

Senator WHITE. Are you talking about the rights of appropriation to what is called the natural flow of the stream?

Senator McFARLAND. That is what I was talking about, Senator. As I understood the testimony of the State Department's engineers, they testified that there would have been sufficient normal flow in the river for Mexico to have appropriated over 1,500,000 acre-feet of water even if the dam had not been built.

Senator WHITE. Not for the natural flow of the stream?

Senator McFARLAND. That is the way I understood it.

Senator WHITE. Are you contending that there would be any obligation on the part of those managing this river development to permit stored water to go down to Mexico?

Senator McFARLAND. I am not contending that we have a duty to furnish any kind of stored water. I will maybe make my position a little bit more clear in that regard later on; but one of the points I am trying to find out is whether there was sufficient normal flow, regardless of Boulder Dam, to make it possible for Mexico to have established an absolute water right under equity rules, we will say, to that amount of water, from the normal flow of the water, not from the stored water. I do not mean to testify here, of course.

The CHAIRMAN. Everybody else has; I do not see why you cannot.

You are talking about stored water and the natural flow of the river. The natural flow of the river, after all, includes every gallon that is stored, does it not? If it had not been stored, it would have gone on down the river.

Senator McFARLAND. In floodtime.

The CHAIRMAN. Any time. In time of flood you hold back some of the water, and what you do is to equate it. You level out the flow of the river. Instead of having a big flood you store the water and that water goes out later on in a more even flow than it would have had but for the dam.

Senator McFARLAND. Of course, I will agree with you, Mr. Chairman, that before water is stored it is all natural flow. When it is held back it becomes stored water. What I am getting back is this, that even if it had not been held back in those years, according to the testimony of the Department of State's engineers, there would have been sufficient water during those years for Mexico to have appropriated over 1,500,000 acre-feet of water and establish a water right. All I am asking Mr. Swing and the witnesses from California is as to whether they agree to that engineering data.

Mr. SWING. We do not.

Senator McFARLAND. Pardon me for consuming so much time.

Senator MURDOCK. Do you take the position, Mr. Swing, in representing California, that it is impossible now, even with the flow of the river equated as a result of Boulder Dam, for Mexico to appropriate and put to beneficial use more than 750,000 acre-feet of water without diversion works established at least partly in the United States?

Mr. SWING. That is an absolutely correct statement.

Senator MURDOCK. And will that statement be corroborated by your engineers?

Mr. SWING. Absolutely.

The CHAIRMAN. What would prevent them from establishing a diversion project in Mexico? I am asking purely for information.

Senator MURDOCK. As I understand the evidence, the physical facts are such that it is impossible for Mexico to put to beneficial use more than 750,000 acre-feet of water.

Senator McFARLAND. That was the point I was trying to get at. Of course, it was pointed out by the chairman that all the water of the river is natural flow until it is stored; but it comes down at flood periods so that it cannot be used. What I meant by the natural flow was the normal flow of the river at a sufficient amount for them to have cultivated their lands and established a water right to 1,500,000 acre-feet.

Senator MURDOCK. Do you mean that water that comes down in a flash flood is available for irrigation purposes?

Senator McFARLAND. No; I do not contend that.

Senator MURDOCK. I think it would be agreed by engineers on both sides that Mexico has probably appropriated all of the water that she could have appropriated under the ordinary flow of the stream, and that by the construction of Boulder Dam and other diversion works within the United States which leveled out or regulated the flow, we have now made it possible for Mexico to appropriate more water, provided, as I understand Mr. Swing, under the treaty we give her the right to come up into the United States and use one bank of the stream, which is in the United States, for diversion works. Is that correct?

Mr. SWING. That is correct.

Senator DOWNEY. If I may ask a question: When you expressed the opinion, Mr. Swing, that you did not think there would have been

enough water in the natural flow of the river for Mexico to have utilized in excess of 1,500,000 acre-feet since Boulder Dam was built, you were, of course, taking into account in that statement prior appropriation that existed under the natural flow of the river before Boulder Dam was built, were you not?

Mr. SWING. Yes, sir.

Senator DOWNEY. Your statement really is that Mexico could not have appropriated 1,500,000 acre-feet of water except by entrenching upon prior appropriations in the natural flow of the stream excepting after Boulder Dam was built?

Mr. SWING. I do not say that she could appropriate, divert, or use for herself 1,500,000 acre-feet even after Boulder Dam was built. She has not any of the facilities, and, in addition, she is enjoined by existing treaties from diverting water. It would be a violation of the navigable provision of the existing law which requires her to do nothing which will impair the navigable capacity of the river from the Gulf up to the California boundary line.

Senator DOWNEY. Let me reframe my question to you. Certainly one, and perhaps the chief, reason why Mexico could not have appropriated 1,500,000 acre-feet of water from the natural flow of the stream prior to Boulder Dam was because a large amount of water was being taken out under prior appropriations in the United States?

Mr. SWING. Before Boulder Dam?

Senator DOWNEY. Yes.

Mr. SWING. Oh, yes; that is absolutely true. The upper basin States and other States were diverting so much that when it got down to the Imperial irrigation district heading both Mexico and Imperial Valley had to severely curtail their uses of the water and limit and restrict the lands that previously they had cultivated.

Senator DOWNEY. You do not mean to say that if next summer, assuming it is an ordinary year, all of the natural flow will go down to Mexico without diversion by anybody in the United States at all, she could not get perhaps 1,500,000 acre-feet of water, assuming, of course, that she could come into the United States to get it?

Mr. SWING. Of course, she could by coming into the United States, with the consent and cooperation of the United States, and by that only.

Referring to paragraph 4 (b) at the bottom of page 3 of the Boulder Canyon Project Act:

Before any money is appropriated for the construction of said dam or power plant, or any construction work done or contracted for, the Secretary of the Interior shall make provision for revenues by contract, in accordance with the provisions of this Act, adequate in his judgment to insure payment of all expenses of operation and maintenance of said works incurred by the United States and the repayment, within fifty years from the date of the completion of said works, of all amounts advanced to the fund under subdivision (b) of section 2 for such works, together with interest thereon made reimbursable under this Act.

That, as was stated heretofore, was the first time by law that the United States required in this kind of a project that the project be prefinanced. In accordance with that requirement southern California subjected approximately \$3,000,000,000 of assessed valuation of property in order to enter into contracts to guarantee this requirement of the act and to assure the Government of the repayment of all this money. Without these contracts advanced by California com-

munities and California agencies the Boulder Dam project would not have been started, because this section would have prevented it.

The next paragraph is a similar provision with reference to the All-American Canal. The contract had to be made and entered into, and that contract not only required the repayment of the money under the Boulder Canyon Project Act, but the contract required that the matter be submitted to a vote of the people. It not only required that it be submitted to a vote of the people and ratified by vote of the people, but required it to be taken to a final judgment, so that in no wise could the Imperial irrigation district ever get out of that contract. Upon the part of the Government it made sure of the Imperial irrigation district, and the same is true of the Coachella County water district, which joined in the construction of this canal. They both had to make their contracts binding by a final decision—there was no way they could get out of it—before the Government would consider those contracts, but the Government claims the right to get out of it on its side.

Senator LUCAS. What is the total amount involved?

Mr. SWING. The Imperial irrigation district, \$26,000,000. The Coachella district has contributed \$11,000,000 and its project is still under construction. The Metropolitan water district—I do not know what their obligation is. It was to take 36 percent of the power of Boulder, whether it used it or not, in order to guarantee the project starting.

For the construction of the aqueduct, \$220,000,000.

In the aggregate, there has been invested altogether by these communities over half a billion dollars.

Senator WILEY. You say half a billion?

Mr. SWING. Half a billion; \$500,000,000.

The CHAIRMAN. In response to your question, Senator Lucas, I should like to state that it is true that the All-American Canal, which supplies these projects about which the witness has testified, was all built at Government expense and that they pay no water charges, as I understand it.

Mr. SWING. Yes, Senator, that is correct. The Government advanced money after the district had obligated its lands to repay it. They do not pay a water charge, like other communities, of 25 cents an acre-foot for storage, because their water right was in existence and had been for a number of years before Boulder Dam was built, and it is the ordinary law in the arid States that the Government will not build a dam or cannot build a dam and shut off a lower user who had a prior right. So that is the reason for it, as I understand it.

Senator MURDOCK. It is also the fact that California had the election, had she not, as I understand it, to place the burden of repayment either on power or water, and she elected to place the burden on power; so there is no question today about the repayment of the whole project, the cost under the act and under the contracts?

Mr. SWING. No; there is no question about that whatever. It is being paid for promptly and regularly. As you say, the question of how California adjusted payment was an internal affair among her own citizens, and they agreed to work it out among themselves in this manner.

Senator MURDOCK. But when we are talking about the contracts you referred to with such solemnity, Mr. Swing, California, in my opinion,

should admit at least this: That before there was \$1 paid back on those contracts, we found California in here demanding a revision under the contracts to the advantage, very much, of California; is not that true?

Mr. SWING. Well, yes, I agree to that; but I think it was also to the advantage of Arizona and Nevada, who got \$300,000 apiece a year out of it, and to the advantage of the upper basin States, which got \$500,000 a year.

I make no complaint about it. I think it was sound, good public policy. The Government is not going to lose a nickel, and these States are getting their projects advanced to the point where they ought to be.

Senator MURDOCK. I do not deny any of that, but the Government of the United States acquiesced in that contract, which probably has resulted very much to the advantage and benefit of all those States.

Mr. SWING. I am now down to section 5 on page 4. That is the provision which I just referred to. The Senator from Arizona aptly pointed out this morning that Arizona furnishes the very finest site in the world for the dam. Arizona and Nevada between them have made a very substantial contribution in addition to the water they have contributed. The State of Colorado makes contribution of 65 percent of the total flow of the stream. California went in and underwrote it financially.

In ordinary partnerships, where one puts in money, one puts in property, and somebody else puts in service, it is generally agreed that it is proper to divide the assets. I think that is what this Boulder Canyon Project Act did. In this instance, we agreed, and the Government agreed, that Arizona and Nevada were entitled to 18¾ percent of the excess revenues. Some people thought there would not be any, but it has turned out, and it has been agreed to by the Readjustment Act that each one of these States can take, without interfering with the Government's being paid off fully, \$300,000 a year. Call it rental for site, call it in lieu of taxes, call it anything you want; I think it is fair recognition of the contribution your State has made to the great Boulder Dam project, Senator.

Senator McFARLAND. We think we are entitled to more than that. We would like to make some of the same kind of contracts for bringing this water into Arizona for these canals that you have made, and get that water to beneficial use, just as you have got the beneficial use. I am sure that Senator Murdock's State would be glad to do the same thing, as would every other State in the basin. We think the Government did a fine thing by you, and we just hope it will be willing to do as much by us.

Mr. SWING. I can understand and appreciate that.

Senator MURDOCK. We hope that by the time California and Arizona get finished, the Government may still be in a position to do just a little for Utah:

Mr. SWING. Section 5 reads:

That the Secretary of the Interior is hereby authorized, under such general regulations as he may prescribe, to contract for the storage of water in said reservoir and for the delivery thereof at such points on the river and on said canal as may be agreed upon * * *.

Then I skip down to the last sentence in that same paragraph, on the same page, and read:

Contracts respecting water for irrigation and domestic uses shall be for permanent service * * *.

It seems to me that that declares a definite public policy in this law which ought to have been recognized and protected by the State Department, because this law is the law of the land up to the present time, and in some way they should have in their negotiations for the Mexican treaty protected the United States prior contracts entered into pursuant to this provision.

Senator LUCAS. You contend all the way through here that the act of Congress gives no right whatsoever in connection with the diversion of any water to Mexico. The act is silent all the way through on that and recognizes only the rights that exist in those States that are in the compact. But the compact itself does discuss that question under paragraph (c) of article 3. I am just wondering why those who entered into the compact did discuss it, in view of the fact that the act itself is silent.

Mr. SWING. The act is not only silent upon it, but it also puts in reverse English, as you will find when we get to section 20, the next to the last section of the act, the last section providing for the title of the act:

Nothing in this Act shall be construed as a denial or recognition of any rights, if any, in Mexico to the use of waters of the Colorado River system.

The compact, of course, was strictly a local, family affair. Here were seven States sitting around the table. They looked at the weather; they looked at this; they looked at the Constitution. They saw what the United States had the power to make treaties, and I think they just threw that thing in as provision among themselves—an internal regulation among those States. I do not think it gave any authority to the United States to do otherwise with the Colorado River water. Of course, it has the power under the treaty-making provision of the Constitution to do anything it wants to, but what we are here discussing is not the legal power of the Government but the moral right. Considering that it had already entered into these contracts and said that they were to be for permanent service and that the water was to be for beneficial use in the United States, then we consider the moral obligation of the United States as to whether it should have taken precautions.

Senator LUCAS. It is difficult for me to understand, in view of California's position now, that California would have permitted paragraph (c) of article 3 to have gone into the compact, because they were discussing the very thing we are discussing here.

Mr. SWING. When it was put into this Boulder Canyon Project Act—I am going to cover that very completely—there were what I call at least three modifications of the compact before the Boulder Canyon Project Act. I will take them up and show that Congress declared what I conceive to be an overriding policy with respect to the compact on that particular point.

Senator DOWNER. May I ask this question? When the compact was adopted, it was, of course, realized that there was a possibility that at some other time the Federal Government would probably enter into some kind of treaty with Mexico which, we believed, would not necessitate the delivering of more than 750,000 acre-feet of water?

Mr. SWING. That was the belief.

Senator LUCAS. But Congress did not recognize that?

Mr. SWING. It did not even recognize that amount.

Senator LUCAS. Congress recognized nothing but the diversion of water to Mexico.

Mr. SWING. It recognized no rights.

Senator WILEY. Apparently the parties to the compact recognized, as Senator Downey said, that at that time there was a possibility in the future of some kind of treaty relationship which might say today that Mexico should get probably a maximum of 750,000 acre-feet. Anyway, while it may be obiter dictum, it was in contemplation, and we are trying to get at just what the parties meant.

The CHAIRMAN. But it went further than that. It contemplated that if Mexico should be granted water rights, that might reduce the amount allocated to the upper and lower basins, and in that event they would each share it in the contribution.

Senator WILEY. Is it the view of the Senator from Texas that the present treaty carries out that intent or that it has gone further than that in using language which is guaranteeing language?

The CHAIRMAN. Oh, I think under the treaty we would just give Mexico her right or recognize her right if she saw fit to use 1,500,000 acre-feet. But what I mean to say is that in the Compact Act, as I recall it, the Compact Act itself provides that if Mexico in the future gets water, and the result of her getting it reduces the supply to such extent that the upper and lower basins do not get their 15,000,000 acre-feet, they shall bear the loss pro rata. That is in the compact.

Go ahead, Mr. Swing.

Mr. SWING. On that very subject, as to what the compact negotiators said, I read from Mr. Hoover's answer on page 396 of the Hoover Dam Contracts:

It is a certainty that no such treaty will be negotiated and ratified which is unfair to the United States or any State or detrimental to their interests. To discuss whether or not a treaty might be made under which Mexico might be permitted to receive water impounded in a reservoir—

and I think it is admitted here that but for Boulder Dam Mexico could not be assured this quantity of water, and you in Utah could not be guaranteed this amount of water—

which may be constructed is to indulge in speculation, but it is safe to say that if such a situation should result it will be only under conditions fair and satisfactory to all parties concerned.

Again, on the next page, he says:

I cannot conceive of the making or the ratification of a treaty which would have such an effect. If it were possible to believe that the Federal Government would treat its own citizens with such absolute disregard of their property and rights, I presume that they would receive ample protection, even as against the Government, under the provisions of the Federal Constitution.

It must be remembered that the United States now has a large financial interest in the projects already constructed. It is not to be presumed that action will be taken detrimental to these interests. Furthermore, each of the seven States directly concerned has two Members of the Senate, by which any treaty proposed must be ratified.

Senator LUCAS. Is that Mr. Hoover's testimony?

Mr. SWING. That is Mr. Hoover's.

Senator LUCAS. Did he testify before this committee on this treaty?

Mr. SWING. No; these are questions that were propounded to him by Senator Hayden when Senator Hayden was a Member of the House of Representatives, and which he placed in the Congressional Record. They were published in this Government book in 1933 as interpretive and explanatory of the compact.

Senator LUCAS. It would be interesting to know how he feels about this treaty, in view of that statement.

Mr. SWING. Well, I am not authorized to speak, but I think I know.

Senator WILEY. What is fair and equitable as a difference between 750,000 acre-feet and 1,500,000 acre-feet? You have already agreed that 750,000 would be fair and equitable; the State Department wants to give them a guaranty of 1,500,000 acre-feet.

Mr. SWING. The Mead Commission committed us to offer the 750,000 acre-feet.

The CHAIRMAN. The Committee of Fourteen wanted to allow them 800,000 acre-feet, and then there was a scale or ratio in excess of 800,000.

Mr. SWING. Yes. We would be perfectly satisfied with the adoption of that method.

Senator WILEY. Under article 10, again, while you have a provision for "a guaranteed annual quantity of 1,500,000 acre-feet to be delivered in accordance with the provisions of article 15 of this treaty" you have the provision in subsection (b) that—

In the event of extraordinary drought or serious accident to the irrigation system in the United States * * *

I particularly call your attention to the phrase—

extraordinary drought * * * thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet a year, the water allotted to Mexico under subparagraph (a) of this article will be reduced in the same proportion as consumptive uses in the United States are reduced.

Will you give me a brief comment as to whether or not that does not in effect somewhat dilute the word "guaranteed"?

Mr. SWING. We think not, Senator. That is to be explained by a subsequent witness, who is going to give some authorities on the word "extraordinary." I think it was explained by Mr. Clayton that that thing would not come into effect until one, two, or three things happened. First, there had to be extraordinary drought. Even if there was extraordinary drought starting in the first year, if the reservoirs were full it would not meet the second requirement that it would be difficult to deliver water to Mexico, because our reservoirs would be full, and although the drought would be on, we would have to supply that which we had stored for ourselves. Then, the third proposition is that the apportionment was to be the same in Mexico as in the United States, whereby the drought might hit definitely one, two, or three of the appropriators in Arizona, California, Nevada, and Utah. They all have this priority system, and the over-all reduction in the United States might be $1\frac{1}{2}$ percent. Therefore, while certain communities would be wiped out under that provision, Mexico would only have a proportionate reduction compared with the over-all reduction in the United States.

Senator WILEY. In other words, you feel that the language, reducing it in the same proportion as some of these uses in the United States, would make it so that instead of your 4,500,000 feet that you were entitled to, you would receive the short end of the deal in California?

Mr. SWING. Take the case of San Diego. San Diego would probably be wiped out totally, although, as has been stated, the President is proposing to build a \$17,500,000 aqueduct to get Colorado River water down there. Yet in case this drought came on, a reduction of their supply would be in total. The net over-all proportion of California might not be over $1\frac{1}{2}$ percent, because their equity is relatively small—the city's—compared with 5,263,000 acre-feet total for California. But the treaty says an over-all reduction all over the basin. You would have certain communities wiped out by a hundred percent reduction, and others—Mexico—would get the average over-all of the whole basin. That is the way I read that treaty, and I do not think it is any security to us whatever.

Senator WILEY. Are you proposing any amendments that you think would better protect the interests of your people?

Mr. SWING. We shall before we are through, Senator. I think reservations should be seriously considered, and we will propose some.

The CHAIRMAN. May I ask you a question?

Mr. SWING. Certainly.

The CHAIRMAN. Did you say that the Boulder Canyon Act made no reference to the treaties whatever, anywhere?

Mr. SWING. I know of no provision in it.

The CHAIRMAN. Look on page 3 of the printed copy, about three-fourths of the way down the page.

Mr. SWING. That is a provision of the act which never became operative, Senator.

The CHAIRMAN. It is the act of Congress, is it not?

Mr. SWING. It never became operative.

The CHAIRMAN. Why did it not?

Mr. SWING. Because that was simply the consent of Congress that three States might enter into that. You can strike it out. in the act. It is still the law, as far as I know.

The CHAIRMAN. All right, but it is an expression of Congress. It is Senator WILEY. What section?

(4) That the waters of the Gila River and its tributaries, except return flow after the same enters the Colorado River, shall never be subject to any diminution whatever by any allowance of water which may be made by treaty or otherwise to the United States of Mexico but if, as provided in paragraph (c) of article III of the Colorado River compact, it shall become necessary to supply water to the United States of Mexico from waters over and above the quantities which are surplus as defined by said compact, then the State of California shall and will mutually agree with the State of Arizona to supply, out of the main stream of the Colorado River, one-half of any deficiency which must be supplied to Mexico by the lower basin—

and so on.

What I meant to ask you was that while it was not in the original act, it was under contemplation that by treaty or other arrangement, and subsequent to that act, of course, Mexico might be entitled to receive some of this water.

Mr. SWING. You ask me my opinion?

The CHAIRMAN. I do not ask your opinion; I ask you whether or not it is not contained in the act. You did state a while ago that there was no reference to any treaties.

Mr. SWING. There was reference to treaties, but my answer was that this never became operative.

The CHAIRMAN. It is still the law, is it not?

Mr. SWING. It is a dead letter.

The CHAIRMAN. All right, but it could be utilized any time, could it not?

Mr. SWING. I do not think so.

The CHAIRMAN. You are a lawyer. I do not understand how you can take a part of a law and say that that part is the law while another part is not the law. This is still the law, unrepealed; it is still on the statute books.

Mr. SWING. That was a proposal or offer by Congress to approve a contract if made in that way, and it never was.

The CHAIRMAN. All right, but the point I make is that it was in the mind of Congress that something might happen along this line in the future which would entitle Mexico to water. You said there was no reference in the act whatever to any possible arrangement. I just wanted to get the fact.

Mr. SWING. The words "Mexico" and "treaty" are mentioned in there in that way, but that is what I call a dead letter; it is inoperative. None of the three States for whose benefit it was proposed—Arizona, Nevada, or California—was willing to accept that part of the treaty.

The CHAIRMAN. But if they changed their mind, they could still complete it.

Senator McFARLAND. Would you be willing to accept it now, enter into this agreement, and settle all these controversies, as far as California and Arizona are concerned?

Mr. SWING. I think, Senator, that you and I had better take that up ourselves.

Senator AUSTIN. Would you interpret the words "extraordinary drought" to mean unprecedented drought?

Mr. SWING. Those which do not ordinarily happen. It has to be something that is not ordinary drought. There has to be a distinction between ordinary and extraordinary droughts. We have had two ordinary droughts of 10 years each within the past 47 years. I have every reason to fear that anyone passing upon it would not say that those were extraordinary, because they have happened twice in the last 47 years, of which we have knowledge, and of which we have notice. So we may anticipate receiving them in the future.

The CHAIRMAN. I might suggest that, according to my view, an extraordinary drought, of course, would be some drought beyond what in the course of time may have happened heretofore. Unprecedented would mean such a drought as never had heretofore at any time happened.

Senator AUSTIN. You are right.

The CHAIRMAN. We will recess now until 10:30 tomorrow morning. I am sorry to have to advise you that we will not be able to use this room tomorrow. We shall have to go to the Foreign Relations Committee room in the Capitol. That is a crowded room, and I doubt whether all of you can get seats. We have tried to make provisions, however. We have 50 chairs in there. I do not know whether we shall have to issue tickets or priorities or something else. At any rate, we shall meet tomorrow morning at 10:30 in the Foreign Relations Committee room in the Capitol.

(At 4:45 p. m., an adjournment was taken until Wednesday, January 31, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

WEDNESDAY, JANUARY 31, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met pursuant to adjournment, at 10:30 a. m., in the committee room in the Capitol, Senator Tom Connally (chairman) presiding.

Present: Senators Connally (chairman), George, Thomas of Utah, Green, Johnson of California, Capper, Vandenberg, White, Shipstead, and Austin.

Also present: Senators Downey, McFarland, Murdock, and Millikin.

The CHAIRMAN. Please come to order. Senator George will preside. Mr. Swing was on the stand yesterday and did not conclude.

Senator GEORGE (presiding). Proceed, Mr. Swing.

STATEMENT OF PHIL D. SWING, SAN DIEGO, CALIF.—Resumed

Mr. SWING. When we adjourned yesterday there were two matters which seemed to have been left a little obscure. Chairman Connally pointed out, successfully, that my memory had tripped me in my statement that the Boulder Canyon Project Act had not mentioned the Mexican treaty; and it is, of course, in section 4 (a) of this pamphlet, at the bottom of page 3. I stated that I had overlooked that, for the reason that we had considered that that was a dead letter and had not been made operative; and I want to refer to the bottom of page 7 of this pamphlet, if you gentlemen have it.

Senator WILEY. The provision that you are speaking about relates to a legal proviso whereby three States, if they so desire, can take action. Is that it?

Mr. SWING. That is exactly it, Senator.

Senator WILEY. And if they do take action, then the provision referred to by Senator Connally comes into operation?

Mr. SWING. That is correct.

Section 7 (b) of the act refers back to that very provision, and says:

The United States—
skipping a lot of language—

shall observe and be subject to control, anything to the contrary herein notwithstanding, by the terms of such compact, whenever as between the States of Arizona, California, and Nevada, or any two thereof, for the equitable division of the benefits, including power, arising from the use of the water accruing to said States, subsidiary to and consistent with the Colorado River compact

which may be negotiated and approved by said States and to which Congress shall give its consent and approval on or before January 1, 1929.

That was what I had in mind. Then it goes on to say:

And the terms of any such compact between said States and approved and consented to by the Senate after that date, provided that in the latter case—that is, after 1929—

said compact shall be subject to all contracts, if any, made by the Secretary of the Interior under section 5 hereof prior to the date of such approval and consent of Congress.

The provisions referred to by Senator Connally were not agreeable to any one of the three States, and no compact was entered into between them before January 1, 1929.

Senator McFARLAND. Did you say any of the States?

Mr. SWING. That is my understanding, Senator.

Senator McFARLAND. My understanding is that California is the one that did not want to enter into the agreement; but I do not want to get into a quarrel with you about that. These disagreements between Arizona and California have nothing to do with this treaty.

Mr. SWING. I think you are right.

Senator McFARLAND. Of course, when you gentlemen claim the whole Colorado River we cannot keep from disagreeing with you.

Mr. SWING. Of course.

Senator McFARLAND. But I believe that we got on some common ground yesterday when your attorney general, and my good friend, agreed that the main thing in regard to the treaty was the water. I hope that you will agree that that is the important thing.

Mr. SWING. Water is the lifeblood of that country, certainly, Senator.

Senator McFARLAND. And we should not reject the treaty because the Imperial irrigation district will get less revenue.

Mr. SWING. That is a matter for you Senators to decide.

Senator McFARLAND. What do you think, Mr. Swing?

Mr. SWING. I think the treaty must be considered in accordance with the existing law and the contracts made under existing law, Senator. That is the position I take—that there is a moral obligation of this country to carry out a declared policy in the Boulder Canyon Project Act and contracts made by the Government.

Senator WILEY. You say moral. I thought they were legal obligations.

Mr. SWING. I think so. I hope they are, Senator.

Senator McFARLAND. Let me see if I understand you. If more revenue for the Imperial irrigation district would mean less water for use in the United States, would you favor rejecting the treaty on that basis, because the Imperial irrigation district was denied more revenue?

Mr. SWING. I am not putting it on that basis. I am putting it on the basis of the sanctity of contracts.

Senator McFARLAND. I wanted to see if we could arrive at some common ground. When we talk about the water situation I think that Arizona and California have the same interests. So far as water is concerned, I think we should both be interested in conserving all possible water for use in the United States, and that our interests are the same in that regard.

Mr. SWING. I think they are, Senator.

Senator McFARLAND. Of course, we might disagree as to what might be the effect of the treaty, or we may agree, on listening attentively to what you have to say, and your other witnesses; but if you are going to base it on the proposition of revenue for one of your districts, which would mean more water to go down to Mexico, because that is the only way they can get the water, then I am against it, because I am for conserving the water for the United States.

Mr. SWING. I am, too, Senator.

Senator McFARLAND. I would like you to make your position clear on that before you get through, because I want to know whether I can agree with you or not.

Mr. SWING. I hope it will be made clear, Senator, and I think it will. Just to finish this point briefly I will refer again to the last sentence:

Provided, That in the latter case said compact shall be subject to all contracts, if any, made by the Secretary of the Interior under section 5 hereof prior to the date of such approval and consent by Congress.

That seems to me clearly to declare the policy of Congress, that compacts or treaties should take into consideration the Federal Government's prior commitments under its own contracts.

Senator MILLIKIN. May I ask a question, please?

Senator GEORGE (presiding). Senator Millikin.

Senator MILLIKIN. What was the date of the Boulder Canyon Act, Mr. Swing?

Mr. SWING. December 21, 1928.

Senator MILLIKIN. What was the date of the final completion of the compact?

Mr. SWING. You mean, when it was transferred into a six-State compact? That was done in the next year.

Senator MILLIKIN. So it is later in point of time?

Mr. SWING. The proclamation declaring it. Of course the compact was written first. This act was written after the compact was written.

Senator MILLIKIN. I am not speaking of when it was written, but when it became effective. That was later in point of time?

Mr. SWING. Yes.

Senator MILLIKIN. And in the compact which became effective later in point of time there was a recognition of the possibility of a treaty with Mexico?

Mr. SWING. I will come to that.

Senator MILLIKIN. Is that correct?

Mr. SWING. It contemplated that possibility, under the Constitution of the United States which gives the Government the treaty-making power.

Senator MILLIKIN. Is California in an equitable position, then, to complain of the acceptance it gave to the provision in the compact to which we are referring?

Mr. SWING. That is what I propose to prove in the next half hour, Senator, if I can get to it.

Senator MURDOCK. In referring to the contracts, Mr. Swing, that may be executed between the United States and any particular district of your State or any other State, it is understood, is it not, that all such contracts have been and will be limited by the compact and the Boulder Canyon Project Act?

Mr. SWING. Absolutely.

Senator MURDOCK. And that any contract that might temporarily contemplate a delivery of water in excess, let us say, of what has been apportioned to the lower basin, if and when the time comes that the water is needed, let us say, in the upper basin, the flow to the lower basin is curtailed in line with the contract?

Mr. SWING. Yes, Senator.

Senator MURDOCK. Any contracts must be limited by the compact?

Mr. SWING. Certainly. All of California's contracts are limited by the compact and by the Boulder Canyon Project Act.

Senator DOWNEY. If I may ask one question—

Senator GEORGE. Senator Downey.

Senator DOWNEY. In connection with this last discussion will you reread the last section of the Boulder Canyon Project Act?

Mr. SWING. You mean section 20?

Senator DOWNEY. Yes.

Mr. SWING (reading):

Nothing in this act shall be construed as a denial or recognition of any rights, if any, in Mexico to the use of waters of the Colorado River system.

Senator DOWNEY. Does that finally and effectually indicate what was the attitude of Congress at the time it passed the Boulder Project Act?

Mr. SWING. That will be an argument that will be earnestly advanced.

Senator MILLIKIN. Will it not be an equally tenable argument that the approval of the compact by the Congress modified the Boulder Canyon Act to the extent that there were conflicts, the latter being later in time?

Mr. SWING. That is what I say I will argue in the next half hour.

Senator GEORGE. It seems to me that if you let the witness proceed maybe he will make himself clear on some of these disputed points.

Mr. SWING. I want to clear up just one other point, if I may, briefly, Mr. Chairman.

Chairman Connally asked me in the last part of the hearing yesterday this question:

You said a while ago, if I understood you correctly—and if I did not, I want to be corrected—that these contracts had the effect of entitling you to more water than was provided either in the compact or the Boulder Canyon Project Act.

I do not think I answered it satisfactorily to Senator Connally or to myself, and the reason that I was confused was the first part of his question, in which he said that he understood I had said something else a while ago. I did not recall saying, and I did not intend to say, any such thing, and I desire to make it clear that in my opinion the California contracts do not give to California or do not call for the United States Government giving to California, under our interpretation of them, any more water than was provided for either in the compact or the Boulder Canyon Project Act. The compact, of course, as everybody who has read it knows, does not apportion any water to California. It makes an apportionment between the upper basin and the lower basin, and that part of the river which is apportioned is 8,500,000 acre-feet to the lower basin. The remainder is unapportioned.

The Boulder Canyon Project Act, by the section which I read yesterday, limited California to 4,400,000 acre-feet of 3-A water, plus one-half of any excess or surplus, and assuming the average run-off of the river, as everybody has assumed so far, to be 18,000,000 acre-feet a year, except in the drought periods, that would make certain a 2,000,000 acre-foot excess or surplus of which one-half would be 1,000,000, and California's contracts are entirely within that limitation.

On the interpretation of the compact, I yesterday read the statement given by Mr. Hoover to Mr. Hayden when he was a Member of the House, and I desire now to read on the same point the statement of Mr. S. B. Davis, who was the representative of the State of New Mexico in negotiating and signing the compact and, therefore, certainly knew what was intended by its language. At the time he testified before the House committee he was Solicitor for the Department of Commerce. I will just qualify him by reading the first part of the statement [reading]:

Mr. DAVIS. My name is S. B. Davis. I am at present Solicitor for the Department of Commerce. I served as representative of the State of New Mexico on the Colorado River Commission which drew the Colorado River compact.

Mr. RAKER. You are an attorney by profession, are you not?

Mr. DAVIS. I am.

Mr. RAKER. How long have you been practicing?

Mr. DAVIS. I was first admitted to the bar in 1897, in the State of Connecticut; since then in the State of New Mexico. I am also a member of the bar of the Supreme Court of the United States and have been practicing since 1898 continuously.

Mr. RAKER. Those questions are asked for the purpose of getting your qualifications.

Mr. DAVIS. Yes; I understand.

Mr. RAKER. Mr. Davis, you say you represented the State of New Mexico in this compact?

Mr. DAVIS. Yes.

Now I come to his interpretation of what we were discussing yesterday, article III (c), which refers to the contingency or possibility of a treaty being negotiated with Mexico [reading further]:

Mr. RAKER. Now, subdivision (c) of article III—what is that in there for, and what does it mean?

Mr. DAVIS. Well, that is the provision covering the possibility of Mexico getting some rights in the river.

Mr. RAKER. The possibility of Mexico acquiring some rights in the river?

Mr. DAVIS. Yes.

Mr. RAKER. Did your commission, in putting that in there, have any theory or viewpoint that the Mexican lands had any rights?

Mr. DAVIS. Can I explain that?

Mr. RAKER. Yes. I would like to have you go into that.

Mr. DAVIS. You must remember that the compact was being drawn by the representatives of the seven States. The United States is not a party to the compact. The seven States proceeded to make what they considered was an equitable arrangement by apportionment as between themselves of this water. Then there came up the question, What about Mexico? Obviously, that was not a matter with which the Commission could deal. It was far beyond our authority. Mexico was not represented. It was not within the scope of the powers given to us. Nevertheless, there had to be taken into consideration the possibility that at some time Mexico might acquire some rights to the use of some of this water, and the lower States then insisted that there should be some understanding relative to the situation if it ever came into being, and it was then agreed that if there did come such a situation, if such an additional burden should be imposed upon the river, it should be shared equally by the two basins.

Mr. RAKER. That is, to avoid any future difficulty or controversy between them?

Mr. DAVIS. Yes, sir.

Mr. LITTLE. Is that in the compact?

Mr. DAVIS. Yes, sir; it is in the compact expressly. Now, you asked as to whether or not the Commission recognized any rights in Mexico. It did not. There never was any recognition by anybody that Mexico today has any rights in this water. They did recognize the possibility that sometime or other as a matter of international comity as between the two nations the Government of the United States might enter into a treaty with Mexico and create in Mexico or recognize in Mexico some rights which the compact does not recognize.

Mr. LITTLE. Mr. Davis, may I ask you whether or not the Commission proceeded upon the theory that a priority use established in Mexico formed the basis of recognition so far as the framing of this compact was concerned; or, to put it in other words, that this Government was not bound to recognize a prior beneficial use within Mexican territory?

Mr. DAVIS. I think the sentiment of the Commission was that this Government is not bound to recognize any right whatsoever in Mexico to the waters of the Colorado River insofar as such recognition would affect the flow of the river in the United States. At the same time the Commission recognized fully that the United States has the power to do so and it might do so, and it took that situation into consideration in drawing this clause, not to cover an existing situation but to cover a situation which might possibly arise as it has risen on the Rio Grande.

He proceeded just a step further with reference to his opinion of the surplus or unapportioned water, and I would like to read that in this connection.

Senator DOWNEY. What was the date of that testimony?

Mr. SWING. That testimony was given on May 15, 1924. It was just about 1 year after Mr. Hoover's answers had been given to Mr. Hayden.

Senator McFARLAND. What page are you reading from?

Mr. SWING. Page 1734.

Senator McFARLAND. Oh. You have a different book. I beg your pardon.

Mr. SWING. Now as to his view of the status of the unapportioned water in the river [reading further]:

Mr. HAYDEN. In his statement before the committee Mr. George H. Maxwell said: "I want to state, to make my position clear at this time, that the ratification of the Colorado River compact might result in a surplus going to Mexico of enough water of the Colorado River to reclaim 2,000,000 acres in Mexico."

As I understand Mr. Maxwell's theory of the compact, the apportionment of 7,500,000 acre-feet to the upper basin and 8,500,000 acre-feet to the lower basin, or a total of 16,000,000 acre-feet, grants the right to the upper basin and to the lower basin, respectively, to that quantity of water, and that there is actually in the Colorado River more water than the 16,000,000 acre-feet that is apportioned.

Mr. DAVIS. That is correct.

Mr. HAYDEN. Mr. Maxwell seems to think that the unapportioned water cannot be utilized in any way in the United States for a period of 40 years. Therefore the surplus water, being impossible of appropriation anywhere in the United States, would go to Mexico.

Mr. DAVIS. I do not suppose anybody has any objection to that. If we cannot use it I know of no reason why it should not go to Mexico, or into the sea, or anywhere else; but as far as having created any right in Mexico to appropriate the surplus or to appropriate anything else, I say the compact does not do that. The compact does not recognize any right of any kind or character in Mexico.

Mr. HAYDEN. Let us suppose the development was greatly accelerated in both basins.

Mr. DAVIS. Yes.

Mr. HAYDEN. That the upper basin was actually consumptively using 7,500,000 acre-feet and the lower basin was likewise consumptively using 8,500,000 acre-feet.

Mr. DAVIS. Yes, sir.

Mr. HAYDEN. That the average annual flow of the Colorado River was more than 16,000,000 acre-feet, and there was a surplus. Can one basin or the other utilize that surplus pending a future apportionment, or must both basins halt when they reach the limit of 16,000,000 acre-feet, and let the water go to Mexico?

Mr. DAVIS. The situation would be simply this. Say the flow of the river was 18,000,000 acre-feet. That is our assumption here for the sake of argument. You would have 2,000,000 acre-feet which was not covered by the compact, which would be subject to appropriation by either the upper or the lower basin in the course of natural development. I see nothing in the compact that says that that could not happen.

Mr. HAYDEN. Then the compact is not to be construed as a limitation on the use of the Colorado River system to 16,000,000 acre-feet and a prohibition of use in either basin of any quantity above that, the result of which would be that the water would go to Mexico?

Mr. DAVIS. Absolutely not.

That states, better than I can state it, California's opinion and my own views upon that part of this case.

Senator WILEY. In other words, you do not claim that the compact would in ordinary law create an agreement between two parties for the benefit of a third party which could be enforced by the third party; neither do you claim that it creates a condition of equitable estoppel on the part of the parties to the contract, so that they could not now be heard to say that they are entitled to this additional water?

Mr. SWING. That is exactly my position, Senator.

Senator WILEY. But you have to admit that there was something in contemplation of the parties. At the most, according to your theory, it was that if in the future at any time the Federal Government was to take action in relation to this matter, you feel that you should be heard as to whether or not the Federal action was just and equitable as far as California is concerned?

Mr. SWING. I think that is a very fair statement of our position, Senator.

Senator MILLIKIN. Those are all unilateral statements and unilateral contracts, as far as the United States and Mexico are concerned; are they not?

Mr. SWING. You are speaking of the compact?

Senator MILLIKIN. I am speaking of all of the documents to which you have been referring, all of the law that you have been referring to. Assuming, Mr. Swing, that we were before an international arbitration commission, that commission would not necessarily have to be guided by what we had done in a self-serving way, so far as the river is concerned, would it?

Mr. SWING. You are referring to the arbitration treaty of 1929, for instance?

Senator MILLIKIN. I am assuming that we had an arbitration between the United States and Mexico with reference to this river.

Mr. SWING. The arbitration board, Senator, would be governed by the definition of the issues and what was submitted to it to decide. Within the limits of the issues as submitted, the board could make any decision it wanted to.

Senator MILLIKIN. Of course, it would not be confined to those laws and compacts which we had set up in the United States and to which Mexico was not a party?

Mr. SWING. That is true. But I assume that in defining the issues as the United States has the right to define them, we would have those documents very often in mind, the compact and the contracts, when we agreed as to what the issues were to be that were submitted to the board of arbitration.

Senator MILLIKIN. Of course the issues to be submitted would be something that would not be arrived at unilaterally.

Mr. SWING. Arrived at with our consent.

Senator MILLIKIN. Of course.

Mr. SWING. And we would have to consent to what the issues were.

Senator MILLIKIN. With Mexico?

Mr. SWING. Yes.

Senator MILLIKIN. We could, of course, refuse to arbitrate it?

Mr. SWING.

Senator MILLIKIN. And Mexico could refuse to arbitrate?

Mr. SWING. She has.

Senator MILLIKIN. But that might not be a helpful thing in our international relations.

Senator SHIPSTEAD. Did you say she had objected to arbitration?

Mr. SWING. In one instance I think there is record that she said she did not care to arbitrate with this country on a certain issue which will be referred to later.

Senator MILLIKIN. May I invite your attention to article III, paragraph (c) of the compact; and I quote:

If as a matter of international comity the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any water of the Colorado River system, such water shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b), and if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the upper basin and the lower basin, and whenever necessary the States of the upper basin shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d).

I stress the point that that provision of the compact makes a first draft upon the surplus waters that we have been talking about, over and above the 16,000,000 acre-feet; and this is the last word between the States on the subject. I stress the point, secondly, that the compact contemplates that even beyond surpluses there might be a draft upon the firm waters which the compact provides for the upper and lower basins.

Mr. SWING. Of course, the United States Government has the power to give away as much of the Colorado River water as it wants to. But what we are here discussing is, what is good policy, what is good faith on the part of the Government, in view of the situation and the facts and the law and the contracts which we are going to undertake to present.

Senator MURDOCK. In line with the comment made by Senator Millikin, I think it might be proper at this time to call the attention of the committee to the answers made by Secretary Hoover to Senator Hayden. And in line with the suggestion of Senator Millikin, it was not only indicated in the compact that all of the surplus waters might go to Mexico, but if the surplus waters were not sufficient, any deficiency would be borne equally between the two basins.

In the answers that Secretary Hoover made at that time you will see that his estimate of surplus waters was between 4,000,000 and 6,000,000 acre-feet. I do not think it is binding on anybody, but it does indicate that that is what he had in mind—a surplus of anywhere between 4,000,000 and 6,000,000 acre-feet of water.

Mr. SWING. In connection with that discussion I would like to say that there is, of course, a distinction which we must at all times keep in mind between the usufruct or right to the use, as the law calls it, and

the corpus of the water. Once the corpus of water has passed across the boundary line into Mexico she is the owner of the water that is physically present there and can do with it anything she wants to. But that does not create in her a usufruct right to continue the use of that amount of water. That is an entirely different thing; and that will be argued by somebody who is to follow me.

I must go through this act as quickly as I can, because I know how valuable the time of this committee is:

On page 7, section 7, of the act is this language:

The said districts or other agencies shall have the privilege at any time—

I am reading from the middle of section 7 on page 7—

The said districts or other agencies shall have the privilege at any time of utilizing by contract or otherwise such power possibilities as may exist upon said canal, in proportion to their respective contributions or obligations toward the capital cost of said canal and appurtenant structures * * *.

That is the law which gave the Imperial irrigation district the right to build Pilot Knob. I mean by that, the contract entered into by the United States Government for the construction of the All-American Canal, which contract contains a recognition of the right of the Imperial irrigation district to build Pilot Knob. It is founded on that particular section of the law. The rest of the section is as follows:

The net proceeds from any power development on said canal shall be paid into the fund and credited to said districts or other agencies on their said contracts, in proportion to their rights to develop power, * * *

Senator McFARLAND. You do not contend that the Imperial irrigation district got a right to have water go down to Mexico in order to make money on it for itself, do you?

Mr. SWING. Oh, no. We will show you the physical situation with which perhaps you are not acquainted, through which the waste from Pilot Knob can be put right back into the river where it came from, whatever amount it is.

I want to read the last sentence of the All-American Canal contract [reading]:

Nothing in this contract shall be construed to prevent the district from diverting water to the full capacity of the All-American Canal if and when water over and above the quantity apportioned to it hereunder is available—

That is, physically available—

and no power developed at Imperial or Laguna Dam shall be permitted to interfere with such diversion by the district, but except as provided in article 21, water shall not be diverted, transferred or carried by or through the works to be constructed hereunder for any agency other than the district, except by the written consent of the Secretary.

What that sentence does is to permit them to take water which otherwise would waste, into Mexico and into the Gulf, divert it for a distance of about 10 or 12 miles, and drop it back into the river. The contract absolutely prevents the Imperial irrigation district from delivering to Mexico any water through the All-American Canal except by and with the consent of the Secretary. So the United States Government has complete control over what water the Imperial irrigation district can deliver to Mexico.

Senator MILLIKIN. Mr. Chairman—

Senator GEORGE. Senator Millikin.

Senator MILLIKIN. I think, in connection with the Congressman's testimony, it is relevant to read into the record subsection (b) of article IV of the compact; and I quote:

Subject to the provisions of this compact, water of the Colorado River system may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes.

Mr. SWING. I concede, Senator, that this Pilot Knob plant is not a beneficial use that would or could possibly interfere with any of the upper-basin States. The language is clear that it is only water that is physically available at that point and which nobody wants.

Senator McFARLAND. If it should interfere with the greatest possible utilization of the water of the river do you concede that it would not be binding?

Mr. SWING. You mean, talking about your own State and your diversion of water? I think you have a right—

Senator McFARLAND. Or Mexico. Do you admit that if it would mean less water for the upper-basin States, because we were compelled to deliver water to Mexico, that provision would not be binding? What I mean is this. If you insisted on delivering, we will say 1,500,000 acre-feet of water—we will assume that it is the duty of the United States to deliver that, for the purposes of this question—and there were other waters going down through the river that could be used at a diversion point, you would not contend that the water would have to go through Pilot Knob?

Mr. SWING. No. I do not claim for Pilot Knob anything in excess of the Imperial irrigation district's own water and any surplus or excess or unusable water which none of the American proprietors above can use, water that has physically passed every other possible diversion.

Senator McFARLAND. How about below?

Mr. SWING. I do not know what you mean by that.

Senator McFARLAND. I am just trying to find out your position. I am not wanting to quarrel with you about this matter at all. You understand that some of the engineers claim that we would not get credit for some of this return flow if we had to deliver this water through Pilot Knob.

Mr. SWING. I do not see the point of that. The only water which Imperial can ask to have delivered through Pilot Knob is water that is not claimed by anybody else, and it must have the written consent of the Secretary of the Interior.

Senator McFARLAND. Is there anything in this treaty that would prevent that?

Mr. SWING. Prevent what?

Senator McFARLAND. Just what you stated.

Mr. SWING. Yes.

Senator McFARLAND. What?

Mr. SWING. The Government takes the Imperial Dam, the All-American Canal down to Pilot Knob and the power site away from the district under this treaty and breaks the All-American Canal contract with the Imperial irrigation district to that extent.

Senator McFARLAND. Does the contract specifically provide for the Pilot Knob power plant?

Mr. SWING. Absolutely. The Government built the 3,000 second-foot capacity in that canal for us and charged us with it, right down to the Pilot Knob wasteway, and in the contract it is provided that we may use it whenever there is water available not called for by anybody else, to run it through the Pilot Knob plant.

Senator MILLIKIN. Does the witness concede that the electrical generation rights, whatever they may be, at the Pilot Knob plant are subordinate to the irrigation needs of the stream?

Mr. SWING. Oh, yes.

Senator MILLIKIN. And does the witness concede that the electrical-energy rights are also subject to such treaty as might in the future be made?

Mr. SWING. Of course any treaty that is made by the United States Government is binding on all of us, whether we like it or not, whether it violates our contracts or not. It will come out on top once it is ratified.

Senator MILLIKIN. Then under no possible theory can the generation plant be used as an excuse for taking water which we could use in this country?

Mr. SWING. No. I agree with you, Senator, absolutely on that.

Senator MILLIKIN. And we should not for a moment consider here and we need give not attention whatever to the profit that might be made out of that electrical plant in relation to this treaty?

Mr. SWING. Only that it is a crime to let water run down the river when it is possible to divert it at some point and put it right back into the river where it would be in nature, and get some money out of it as the United States Government contemplated would be gotten out of it to apply upon the repayment of the cost of the cost of the All-American Canal and other obligations of the Imperial district to the United States Government.

Senator MILLIKIN. The California thesis rests on a full development of the water of the Colorado before it reaches the Mexican boundary, and of course under your full development theory there cannot be any waste water to go into Mexico?

Mr. SWING. I had better leave that to the engineers to discuss—full development. We certainly are for full development in the upper-basin States and the lower-basin States, both; but I am going to come to that in just a minute.

Senator MURDOCK. Along the line that Senator McFarland was interrogating you about, let us assume that the entire burden that may be assumed by the United States with reference to water allotted to Mexico can be borne by return flow; say that we agree on 1,500 000 acre-feet, and the whole amount could be supplied by return flow from Arizona projects below a point where it there could be utilized further in the United States beneficially; would you take the position, under your contract relating to Pilot Knob power plant, that notwithstanding that fact certain waters had to be discharged through the Pilot Knob power plant?

Mr. SWING. I would take the position that if some of this return water was passing Imperial Dam on its way to Mexico, under this contract we would have a right to divert it through the All-American Canal, drop it back down through Pilot Knob and into the river, just where it would have gotten in the natural flow.

Senator McFARLAND. But assuming that it came in below the Imperial Dam?

Mr. SWING. Oh, no; there would be no contention of that kind at all, Senator.

Senator MURDOCK. You would not contend, if we were supplying the entire amount of water to Mexico by return flow below the Pilot Knob plant, that you had any right to demand flow through the Pilot Knob plant merely to operate the plant?

Mr. SWING. No. I think is clear from the All-American Canal contract. This excess, 3,000 second-foot capacity, which was built by the United States for that purpose, is solely waste water in which the district acquires no right except if, as and when it is physically present after it has passed every possible upper diversion.

Senator DOWNEY. Mr. SWING, is it not true that none of this water can be used in the Pilot Knob power plant except by the direction and authorization of the Secretary of the Interior?

Mr. SWING. I just read the language of the All-American Canal contract, which clearly gives the United States Government, through the Secretary of the Interior, absolute control; that is, so far as delivering it to Mexico is concerned.

Senator DOWNEY. I want to clarify my mind upon one point. As I understand the effect of this contract with regard to Pilot Knob, it is to give to the Imperial irrigation district the benefits of the revenues that will come from the electric power generated there. Is that a fair statement?

Mr. SWING. That is a fair statement.

The CHAIRMAN. How much a year does Pilot Knob get? What are those revenues?

Mr. SWING. I think, Senator, there has been some confusion in connection with that.

The CHAIRMAN. That is why I am asking you the question. You know about it, do you not?

Mr. SWING. There is no plant there at Pilot Knob at present. There is a contract right, and we have been deferred in getting the plant built due to war conditions and inability to get the necessary priorities.

The CHAIRMAN. You are not using the water, then, at this time?

Mr. SWING. No, sir; not for that purpose.

The CHAIRMAN. Where is it that you sell to Mexico?

Mr. SWING. The Imperial sells no water to Mexico.

The CHAIRMAN. Who is it that delivers this water to Mexico?

Mr. SWING. That is a Mexican company.

The CHAIRMAN. It is a subsidiary of your company, is it not?

Mr. SWING. We own the stock of it; yes, sir.

The CHAIRMAN. If you own the stock of it, it is in effect the Imperial, is it not? If you own the company over there, you in effect are the company. I want to know how much money you get out of Mexico now, each year, for water that you deliver to them over the border.

Mr. SWING. Witnesses who have those facts and figures will be here and testify. But I will say this, that it does no more than pay for the cost of the operation.

The CHAIRMAN. I did not ask you that. If you do not know, all right. But I assumed you did know. You were the attorney for the Imperial Valley for years.

Mr. SWING. Yes; but I have not been for some time.

The CHAIRMAN. Do you know anything about whot they get out of Mexico?

Mr. SWING. No.

Senator McFARLAND. Senator Murdock just asked me a question, and I think you can explain it to him better than I can. Where do you drop the water from Pilot Knob?

Mr. SWING. From the All-American Canal.

Senator McFARLAND. Into what canal?

Mr. SWING. It falls immediately into the Alamo canal, or immediately back of Rockwood Heading, and with the Hanlon Heading, which is on the American side of the boundary line, by the operation of the Hanlon Heading all of that water can be put back into the river through Rockwood. But that will all be explained by the engineers when they get to it.

Senator DOWNEY. In the treaty there is a sitpulation that a half interest in the revenue from Pilot Knob is set over to the Mexican Government—is it? Or the water users?

Mr. SWING. No. As I understand the treaty, the provision is that a portion of the profits, after this treaty is in effect, will be applied on what it calls the payment of Mexico's part of the works used to divert water within the United States and deliver the water to Mexico. What the exact amount is, is not stated. It is sort of a ratio.

Senaor DOWNEY. The question I want to ask you now is this. Is the revenue which is thus apportioned to Mexican interests revenue that comes from all of the water that will be dropped through the power plant, including the water belonging to the All-American Canal, or is it only these excess waters that you have been talking about?

Mr. SWING. Oh, no. If they once take over the plant under this treaty they of course will use all the water they can get hold of to make the plant as profitable as possible, and will include water that rightly belongs to the Imperial irrigation district.

Section 9 of the Boulder Canyon Project Act contains an important paragraph which we say is violated by this treaty. It is the preference right given by Congress to honorably discharged veterans who fought in various wars in defense of this country. That section provides:

That all lands of the United States found by the Secretary of the Interior to be practicable of irrigation and reclamation by the irrigation works authorized herein shall be withdrawn from public entry. Therefore, at the direction of the Secretary of the Interior, such lands shall be opened for entry, * * *

Then, dropping down to the first proviso—

Provided, That all persons who have served in the United States Army, Navy, or Marine Corps during the war with Germany, the war with Spain, or in the suppression of the Insurrection in the Phillppines, and who have been honorably separated or discharged therefrom or placed in the Regular Army or Navy Reserve, shall have the exclusive preference right for a period of 3 months to enter said lands. * * *

There was a declared policy of Congress that the public lands below Boulder Dam should be withdrawn from entry and honorably discharged veterans should be given a preference right to enter that land.

Senator WILEY. Did they enter it?

Mr. SWING. It has not yet been opened, because the works to make it available are still to be constructed. They desire to enter. There

are probably a million acres of land below Boulder that are practical of reclamation from the waters of Boulder, in Arizona, California, and Nevada, principally in California and Arizona. This gives them a preference right to enter the lands. The lands are desert lands, and if this water is taken out and given to Mexico, as we believe it will be under this treaty, the veterans say they have a right to complain; and I believe they have asked for a hearing before this committee.

Senator McFARLAND. Then you admit that water is the important thing and not this monetary consideration. We might adjust all of those things, but you cannot adjust water.

Mr. SWING. I think that is true.

Senator McFARLAND. I think the thing that we should consider here is whether or not this treaty gives any more water to Mexico than we are equitably obligated to deliver. Is not that the real point?

Mr. SWING. I think that is the only point.

Senator McFARLAND. We will agree on that.

Senator MILLIKIN. Will you not concede that the veterans' provision takes its part in the whole statute and merges into the whole problem, and that whether we treat the veteran right depends upon whether we make a fair treaty?

Mr. SWING. Well, Senator, you are entitled to any opinion you want. I believe that is an express promise and that the floodwaters of the Colorado River stored back of Boulder Dam are pledged to the reclamation of the public lands for the benefit of the honorably discharged veterans of our Army, Navy, and Marine Corps.

Senator MILLIKIN. Can you point to anything in the act that takes it out from the general operations of the act and makes it a paramount, superior right?

Mr. SWING. The United States Government, on page 1, has a declaration of appropriation that, if I understand water law at all, states that the purpose of it is to reclaim public lands. That is immediately tied in with section 9, which says that these public lands are for the benefit of veterans; and it seems to me that there is an appropriation, a declaration, and a pledge of these floodwaters stored by Boulder to these veterans for the reclamation of these public lands.

Senator MILLIKIN. Would you not say that that provision is subject to the interpretation of the whole, entire act?

Mr. SWING. No; I think that that section stands by itself.

Senator MILLIKIN. And takes paramount, direct influence over all the other provisions?

Mr. SWING. Oh, no; not over all the other provisions.

Senator MILLIKIN. If it takes no over-all position, then it merges into the whole contract.

Mr. SWING. Congress has made this promise to the veterans, and instead of giving them a loaf of bread, it is going to give them a barren stone.

Senator McFARLAND. You are assuming that we are giving more water than we are equitably obligated to deliver?

Mr. SWING. That is what my engineers advise me.

The CHAIRMAN. Would you say that it was paramount even to 750,000 acre-feet, to which you say Mexico is entitled? Does it override that?

Mr. SWING. So far as rights are concerned, I think I would prefer the rights of the United States veterans over the claims of Mexico.

The CHAIRMAN. I am not talking about what you would prefer. I am asking if, under the treaty and your contention, that would supersede the 750,000 acre-feet to which you say Mexico is entitled?

Mr. SWING. If that involves stored water——

The CHAIRMAN. Does it or not?

Mr. SWING. Yes.

The CHAIRMAN. You are here to tell us what you know.

Mr. SWING. I think it does.

The CHAIRMAN. You are here to advise us.

Mr. SWING. I think it does.

The CHAIRMAN. Your contention is that that claim wipes out all claims of Mexico?

Mr. SWING. I have never agreed that Mexico has a claim except as a matter of comity.

The CHAIRMAN. You said she was entitled to 750,000 acre-feet. Your contention is that that clause about veterans destroys even that?

Mr. SWING. I say that there is a direct promise.

The CHAIRMAN. I heard that. I know what the act says. But I want your contention.

Mr. SWING. Mexico up to the present time has no right to any amount of water.

The CHAIRMAN. All right. That is what I thought was California's idea.

Mr. SWING. You were not here when I read from Stephen Davis.

The CHAIRMAN. No; but I have read the acts. I do not need somebody else's interpretation.

Senator MURDOCK. Mr. Chairman, I had not intended to ask these questions of Mr. Swing until he had completed his statement, but I believe, now that this subject has been opened up, that this is a very opportune time to call Mr. Swing's attention to his own statements made on the amount of water that Mexico was using at that time. With your permission, I should like to ask five or six questions.

Senator GEORGE. Yes. All right, Senator Murdock.

Senator MURDOCK. Mr. Swing, I call your attention to the United States House hearings, Colorado River Basin, 1-4, appendix 1928. At page 272, we find this statement by yourself, when you were talking about the present use of water in the lower basin:

The coastal cities will require, for domestic purposes, 400 second-feet; leaving to Mexico the amount of water which they have been using, 3,000 second-feet * * *.

You made that statement, did you not?

Mr. SWING. Well, yes.

Senator MURDOCK. Now, as I understand the proponents of the treaty, their contention is this: That either right now or at sometime in the future we must settle with Mexico the quantity of water that she is entitled to. You have been connected, as I understand it, very closely with the water rights in the Colorado River, first as a joint author of the legislation, and later as attorney for certain interests in California. I believe that the proponents of the treaty are apprehensive that at some date in the future, if the treaty is not made now, but we do settle the matter ultimately with Mexico by, let us say, arbitration, those statements made by you might be rather damaging to the cause of the United States. That is why I wanted you to corrob-

rate the fact that you made that statement in those hearings. I shall read it again:

* * * leaving to Mexico the amount of water which they have been using, 3,000 second-feet * * *.

Now, that 3,000 second-feet, Mr. Swing, would amount, would it not, to more than 2,000,000 acre-feet of water? Is that right?

Mr. SWING. That is the computation. That figure, of course, was in error. I do not believe the records will prove that that was the amount they were using. That was the amount that was going down the stream physically.

Senator MURDOCK. You put it this way; and, of course, knowing that you are considered by me and by others who have had something to do with the Colorado River as an authority on it, you state not that it is running down, but—

* * * leaving to Mexico the amount of water which they have been using, 3,000 second-feet * * *.

Mr. SWING. Well, my interpretation of that is that it is physically present in the river. They never used that amount of water except for limited periods of time.

Senator MURDOCK. I turn now to page 279. You remember, do you not, Mr. Swing, that you called a Mr. Panter as a witness?

Mr. SWING. Yes.

Senator MURDOCK. The following question was propounded by Mr. Douglas, who at that time was representing the State of Arizona in the House:

Mr. DOUGLAS. It would be in excess of the amount which could be, under your estimate, thrown into the Salton Sea and not violate the contract. Now, let us go back to Mexico a minute. You say that you estimate that Mexico is going to use 3,000 second-feet of water?

Mr. PANTER. That is my understanding of what they are using today, and basing the amount upon the assumption that any treaty which the United States might negotiate with Mexico might contain a clause giving them the right to irrigate what they have at present.

So we have you, Mr. Swing, and then we have your witness, Mr. Panter, back at that time, 1928, taking the position not that there were 3,000 second-feet of water running into Mexico through the Colorado River, but that Mexico was using it; and then the statement of your witness, Mr. Panter, is also to the effect that "they are using today" 3,000 second-feet of water. Now, 3,000 second-feet of water, as I understand its relation to acre-feet, would be in excess of 2,000,000 acre-feet?

Mr. SWING. Well, of course, you are just confusing the situation.

Senator MURDOCK. I am not confusing it. Your statements might confuse me; and they do confuse me, by reason of the position you now take. But I have in the back of my mind this thought: that some day, if this matter is ever arbitrated, the testimony of Mr. Swing, Mr. Panter, and others, given at that time is going to loom rather large in the picture as to what Mexico's rights are.

Mr. SWING. You have to measure water in two different ways. You measure it by second-feet; you measure it by acre-feet.

Senator MURDOCK. That is right.

Mr. SWING. Mexico at that time was raising cotton on 200,000 acres. The cotton was growing in June, July, and August. The Mexican

demand for water was a seasonal demand. The peak of that demand was 3,000 second-feet of water. But that does not multiply out that they ran that water 365 days in the year; actually they ran it only about 90 days out of the 365. So the maximum amount of water that Mexico ever put to beneficial use is exactly as stated in the Mead report, a little less than 750,000 acre-feet. So please do not be disturbed about my statement or the statement of Mr. Panter.

Senator MURDOCK. I cannot help being a little disturbed.

If I may, Mr. Chairman, I should like to follow this through.

Senator GEORGE. All right.

Senator MURDOCK. I should like to do it now, inasmuch as Mr. Swing has brought up the question of the application of water to the cotton crop.

You recall a man by the name of Childers, do you not?

Mr. SWING. I remember Mr. Childers.

Senator MURDOCK. He testified on this very question at that time. His testimony may be found at page 440 of the same volume. With the permission of the chairman, I shall read it.

Mr. ALLGOOD. So Mexico cannot appropriate very much more of the water?

Mr. CHILDERS. Yes; she can; and I will explain to you, if I may, why. Mexico's use is almost exclusively for cotton. Little cotton is grown on our side of the line. We grow other things more extensively. In Mexico, as I say, they grow almost exclusively cotton. Now, during the time of year when the cotton must be irrigated there is plenty of water—May, June, July, and August. That is the time before the low water comes. The low water comes later, after most of the cotton is laid by.

They can go ahead and take water during these months of the year and put in immense acreages, and even if they took a loss once in a while, even if it was necessary to have a little later irrigation, or if the river went down a little earlier than normal, that would not be such a serious matter.

Mr. ALLGOOD. When does Imperial Valley take water out?

Mr. CHILDERS. Twelve months in the year. There isn't a great deal of difference. Of course, our heaviest demand comes in the spring of the year.

Mr. ALLGOOD. At the same time as Mexico's?

Mr. CHILDERS. Yes. But there is plenty of water at that time. There is never a shortage during May and June. That is when we have our floods—May, June, and July. There is plenty of water then, but Imperial Valley on the American side takes water 12 months in the year for her vegetables and the other crops that she grows. But after September Mexico does not require any more water.

So it seems that in the cultivation and growing of cotton the testimony at that time indicated that Mexico did have plenty of water for the irrigation of cotton.

Mr. SWING. She had plenty of water for the cotton she had in. She certainly did.

Senator WILEY. For the maturing of it?

Mr. SWING. Of course, there were, as we have said again and again, years of drought when both the 200,000 acres that Mexico had in crop and the 400,000 acres that the United States had in crop in the Imperial Valley had to be severely curtailed repeatedly.

Senator MURDOCK. Whenever drought comes, of course, I think all users of the river are curtailed. But the evidence of Mr. Childers is that during the months they needed water to irrigate and mature their cotton Mexico had plenty of water.

Mr. SWING. But they had no way of taking it out except through American facilities.

Senator DOWNEY. In connection with the figures, may I ask a question, with the consent of Senator Murdock?

Senator MURDOCK. I should like, in answer to the statement which Mr. Swing has just made, to call his attention to a statement by Governor Dern, of Utah, later Secretary of War, on this question of whether they could divert it themselves. This is what Governor Dern said on this, Mr. Chairman. It is a little lengthier than I should like to read, but it has to do with whether or not a treaty was contemplated and also with the ability of Mexico to divert on her own territory.

Governor DERN. I was in the midst of a discussion of the Mexican problem when the committee took a recess.

I may say that this testimony appears on page 199 of the same book.

Governor DERN. The longer the completion of the Colorado River compact is delayed, the larger Mexico's claims may become, except that without storage they can never exceed half the low water flow of the river. Since Mexico is part of the lower basin, and is not in the compact, it is just as important to the upper basin to secure an agreement with Mexico as it is to secure California's ratification.

It is urged that the All-American Canal will solve this complication, because the Imperial Valley will then abandon its Mexican canal and will therefore be relieved from its contract to give Mexico part of its water. That sounds simple, but obviously Mexico is not going to let her lands burn up and abandon them. If she cannot secure the use of the Imperial Valley present diversion works at Hanlon heading, I understand she can go down the river a few hundred yards and build new diversion works on her own soil. They might not be very good, but I am told they could be made to answer the purpose, and then she will have in her own hands the control of all the water that comes past Laguna Dam, where the Imperial Valley new diversion works will be situated. She may claim that she has established rights to a certain quantity of water. In doing so, the Republic of Mexico is not going to deal with the Imperial Irrigation District, but with the United States of America, and as a matter of international comity Mexico's just claims will be recognized. This will require a treaty, and the treaty will become the supreme law of the land.

It seems that Governor Dern, of Utah, who made a very close study of the problem, having devoted a great part of his life while Governor to that question, seemed to think that a treaty was absolutely necessary for the protection of the upper basin States.

The CHAIRMAN. Was he not an engineer by profession?

Senator MURDOCK. Senator, Governor Dern was an engineer.

Now, for the convenience of the committee, I should like to insert in this record the pages in the 1928 hearings at which reference was made to the treaty.

Senator GEORGE. You may do so.

(The pages referred to are as follows: 13, 27-28, 38-39, 72, 145, 146, 150, 163, 165, 193, 197-198, 200, 201-203, 220, 223, 232, 271, 272, 277, 337, 392, 399, 402, 440, 441-442, 443, and 536.)

Senator DOWNEY. Mr. Swing, for the information of the committee, may I ask you. Does not a flow of 3,000 second-feet of water for 24 hours produce 6,000 acre-feet of water? Is not that correct? One second-foot of water every day produces 2 acre-feet?

Mr. SWING. I do not know. That has to be reduced to a formula. There are these engineering formulas that everybody has. If you have the formula, I will agree to it.

Senator DOWNEY. Assuming that that is true, 3,000 second-feet a day would be 180,000 acre-feet a month, would it not?

Mr. SWING. Whatever the formula multiplies out to. That is a matter of mathematics.

Senator DOWNEY. Over a period of 4 months, a flow of 3,000 second-feet of water would produce 720,000 acre-feet. I think that is correct. I should like to comment to the committee that that is, I understand, the admitted fact as to the maximum amount of water that Mexico had ever used prior to the building of Boulder Dam.

Mr. SWING. The Mead report ascertained it accurately and gives it in there as just a little less than 750,000 acre-feet. That is the maximum that they used before the building of Boulder Dam.

Senator McFARLAND. If they did actually use back there 2,000,000 acre-feet of water, would you say this was a good treaty?

Mr. SWING. Two million acre-feet of water?

Senator McFARLAND. Yes. If Mexico was using at that time 2,000,000 acre-feet of water, would you say this was a good treaty?

Mr. SWING. No; I would not say so, for more than one reason.

Senator McFARLAND. For monetary reasons?

Mr. SWING. No; for many reasons—administrative features; rights of the United States in the water.

Senator McFARLAND. Assuming they would be entitled to that water, we would be saving 500,000 acre-feet of water.

Mr. SWING. You assume they are entitled to it; I deny it.

Senator McFARLAND. No. Senator Murdock has raised a question here as to your testimony, indicating that you might have made a basis there for Mexico to claim in a court of arbitration 2,000,000 acre-feet of water. What I am trying to do in these hearings is to determine just exactly what ought to be done in regard to this treaty. For the purpose of this question, I am assuming—though not admitting, of course—that Mexico did use 2,000,000 acre-feet of water a year. Would it be a good treaty, then, if we saved 500,000 acre-feet?

Mr. SWING. No; I would not think it was. There is no obligation on the part of the United States to continue to deliver water to Mexico which is running down there.

Senator McFARLAND. What I want to know is whether you base your objection primarily upon water or primarily upon monetary considerations.

Mr. SWING. I object to the treaty on many grounds. One of them is water; one of them is administrative features of the treaty, which will be discussed later.

Senator McFARLAND. Pardon me.

Senator MURDOCK. What administrative features do you have in mind? That works in the United States will have to be used for the delivery of this water?

Mr. SWING. Absolutely.

Senator MURDOCK. On that question, Mr. Swing, with the permission of the chairman, I should like to read another statement that you made on that very point, appearing at page 13.

The bill puts into effect, between the States which have agreed or may agree to it, the Colorado River compact and carries the upper State provisions for the protection of their water rights. It makes possible a reservoir from which the Government may meet any treaty obligation it may incur toward Mexico.

Last Congress authorized the International Boundary Water Commission and directed it to gather data for a treaty with Mexico regarding the waters of the Rio Grande, the Colorado, and the Tijuana Rivers. There is no question but that our country will be called upon by treaty with Mexico to supply some water

to Mexico. How much is a matter for the negotiators and the United States Senate to determine. But in the lights of all past precedents we will furnish them some water. In the uncontrolled condition of the river there is no flow available for the Government to use for this purpose, therefore, it must build and control a reservoir from which it may be able to comply with the treaty obligations when they shall have been authorized.

Mr. SWING. Those views, however, were not carried into the act itself. The act does not carry out that expression. Under the act, I would say that those views did not reach fruition.

Senator MURDOCK. My point in calling it to your attention, Mr. Swing, is that some day, in a court of arbitration, if that day ever comes, I am just afraid that Mexico, referring to yourself as a great authority on this question—and I frankly admit that you are—might call our attention to this statement wherein you say that there must be a reservoir built up in the United States territory on the Colorado River to make it possible for the United States to conveniently deliver to Mexico water to which she is entitled.

Mr. SWING. Well, that is an engineering proposition. I think maybe it is pretty good engineering. But you will find as a matter of law that my statement is very clear, that in no place did I recognize any rights of Mexico. I relied throughout those hearings, from beginning to end, upon the opinion of Attorney General Judson Harmon, reported in 21 United States Opinions of the Attorney General, at page 274.

Senator MURDOCK. I will make this observation: It is rather difficult for me to read these statements made at that time and harmonize them with the position that you take today. There may be defects in my own thinking, but it is just a little difficult for me to do that, with all due respect to yourself.

Senator MILLIKIN. May I ask a question, Mr. Chairman?

Senator GEORGE (presiding). Yes, Senator Millikin.

Senator MILLIKIN. I assume—and I think this is appropriate to Senator Downey's last question to you and your answer to him on the same subject matter—that 1,800,000 acre-feet is the maximum demand as of the time we were talking about, and that 750,000 acre-feet is the average; is that correct?

Mr. SWING. No, Senator. The average maximum used per year in Mexico was 600,000 acre-feet.

Senator MILLIKIN. Six hundred thousand?

Mr. SWING. Six hundred thousand acre-feet. The maximum in any one year was a little less than 750,000 acre-feet.

Senator MILLIKIN. Take the 750,000 acre-feet.

Mr. SWING. This is before Boulder.

Senator MILLIKIN. Exactly. That would come out of laterals from the Alamo Canal, would it not?

Mr. SWING. Yes.

Senator MILLIKIN. How much loss of water and waste of water is there in conveying water that Mexico gets from the point of diversion to the point of the laterals?

Mr. SWING. I do not know, but the percentage of loss in those large canals—and that is all they were; they were large canals—was very small.

Senator MILLIKIN. Would it surprise you if, by evaporation, seepage, and waste, it amounted to as much as, say, 250,000 acre-feet?

Mr. SWING. I think that is a very excessive figure, and I believe our engineers will show it is.

Senator MILLIKIN. So the 750,000 acre-feet, taking that figure, or taking a lower figure or a higher figure, should have added to it the amount of loss by evaporation, seepage, and wastage from the point of diversion to where the Mexican laterals tap the Alamo canal?

Mr. SWING. If you are going to consider that Mexico has a legal right under some law of appropriation, which I do not recognize.

Senator MILLIKIN. I am talking about a physical fact. The water that enters at the point of diversion is diminished, by the factors I have mentioned, between the point of diversion and the point of laterals?

Mr. SWING. Certainly.

Senator MILLIKIN. So the remaining question is, How much?

Mr. SWING. That will be answered a little later.

The CHAIRMAN. Your contention was that in 4 months they got 180,000 acre-feet?

Senator MURDOCK. Three thousand second-feet.

The CHAIRMAN. During the cotton season; and that they figured it up—

Senator MURDOCK. I say, it was 3,000 second-feet.

The CHAIRMAN. Well, translated into acre-feet.

Senator DOWNEY. One hundred eighty thousand acre-feet per month, or 720,000 acre-feet over a 4-month period.

The CHAIRMAN. Is it your contention that for those 4 months Mexico was entitled to 180,000 acre-feet a month and not a drop for the rest of the year?

Mr. SWING. As a lawyer, I should say that if she were a part of the United States, entitled to participate with us, she would be entitled, in the list of priorities, down wherever she came, to take just the amount of water she had actually put to beneficial use. What has been given to you is a calculation—an arbitrary calculation. Three thousand second-feet was the maximum in any 1 day, not that it ran 3,000 second-feet for 120 days.

The CHAIRMAN. That is not what I am asking. Your testimony as quoted was that the present use of this water in Mexico is for the raising of cotton; that they used it for that purpose only 4 months in a year; that they actually used 180,000 acre-feet a month; and that for those 4 months it would be 720,000 acre-feet.

Mr. SWING. No; that is a compilation.

The CHAIRMAN. My question is, Even though she may have been entitled to that water for 4 months, she is not entitled to any during the rest of the year?

Mr. SWING. She would be entitled to what she had actually used throughout the year. That would be the amount she would get, and she could use it in any month she wanted to use it, or all in 3 months, or all in 4 months, or spread it over.

The CHAIRMAN. Is it your contention that during that period she did use it 4 months and, during the rest of the year, she did not use it for any purpose?

Mr. SWING. No.

The CHAIRMAN. You ought to know. You were giving it to her at the Imperial canal, and you were the attorney for the company. Do you have the figures here?

Mr. SWING. The engineers will produce them.

The CHAIRMAN. I shall be glad to have your engineers tell us how much water throughout the period went out of the Imperial canal to Mexico by months during the whole year, and what the revenue was to the Imperial Valley from that water.

Mr. SWING. I assure you that that will be presented.

Senator MILLIKIN. I was very much interested in the witness' statement that, if Mexico were a part of the United States, she would be entitled to water rights based upon usage. If that be true, how do you avoid the fact that she is entitled to 1,800,000 acre-feet?

Mr. SWING. Because she is under international law.

Senator MILLIKIN. Would not an arbitration board put Mexico in that precise position; in other words, put her in the position of an independent sovereignty, just as Kansas and Colorado were put on that basis in the *Kansas v. Colorado* suit?

Mr. SWING. I think it would depend on so many factors that we cannot anticipate. I certainly thought that our case was properly presented from the United States' point of view.

Senator MILLIKIN. I wish you would give us some comfort on that or give us some demonstration of that.

Mr. SWING. My comfort, which I should like to give you, is that I know of no precedent in all the treaties I have read or heard of in which a board of arbitration, or anybody else, ever gave to another country a dividend, a right to the beneficial use of property within the United States, as a means of getting its water out except by the consent of that Government itself.

Senator MILLIKIN. I believe the testimony has shown that at least a half dozen arbitration treaties have been referred to where the precise principle which I have mentioned was carried into effect; to wit, usage as of the time of arbitration.

Mr. SWING. Well, that was not my point. My point was that Mexico cannot claim the right to arbitrate; that it is not entitled to use the Imperial Dam to divert water for itself. It cannot arbitrate the right to use the All-American Canal to convey it down to a half-way point. It cannot arbitrate the right to use Boulder Dam to store water for its benefit. Those are not subjects of arbitration under international law.

Senator MILLIKIN. Your point is that Mexico is getting something for which she is not paying; is that the point?

Mr. SWING. No; that is one point, but it is not the only point. The point is, as I have tried to state it, that there is no precedent in international law to submit to arbitration a claim by Mexico that she is entitled to have water stored in Boulder Dam and delivered to her by diversion at another structure, Imperial Dam, flowing in the United States through the All-American Canal, built and paid for by the United States, either out of the Treasury or by its citizens. That cannot be subject to arbitration any more than Mexico could claim to arbitrate in respect of your own house.

Senator MILLIKIN. But if we did arbitrate, would not the arbitrators have to look at what is happening to that stream; and the dams, the diversion works, and all the rest of it are mechanical things in the whole problem? Is it not California's contention that, in view of the fact that we have built Boulder Dam, Mexico is getting an unearned increment out of it; is not that California's position?

Mr. SWING. Under this treaty?

Senator MILLIKIN. Yes.

Mr. SWING. Yes; I think Mexico is getting unearned increment out of the treaty. What we were talking about was arbitration. Under arbitration, Mexico would have to arbitrate a natural right, which is an ordinary right in the river in the state of nature, uncontrolled, unimproved.

Senator MILLIKIN. Mr. Swing, I respectfully suggest that such argument is out of this world. The Colorado River is improved. It does have dams on it. The arbitrators would have to look at them. They would have to reach an equitable decision concerning that.

I respectfully suggest that if California has a point—and it has been emphasized here again and again—it is because the United States has installed facilities that make a regulated flow into Mexico, Mexico is getting something she has not paid for, and that the arbitrators would have to take that into consideration. Am I correct in that?

Mr. SWING. No. My position—I will let California speak for itself—is that by the Boulder Canyon Project Act, by section 1 and the following sections the United States dedicated and appropriated flood waters of the Colorado River and told how they should be put to use and where they should be put to use within the United States, and on those lands where the veterans were promised it should go, and that Mexico has no right in this salvaged, this stored, this flood water which previously was unusable by anybody, but was made usable by this project; and this project was an appropriation of those waters for the uses therein stated.

Senator MILLIKIN. Then, Mr. Swing, how do you reconcile the definite provisions of the compact, which foreshadow a treaty which will distribute those flood waters?

Mr. SWING. Well, that is what I am going to tell you, if I can get to it.

Senator DOWNEY. May I intervene with a question?

Senator GEORGE (presiding). Yes; Senator Downey.

Senator DOWNEY. Mr. Swing, if a water user in the United States, one of our own citizens, had been using in the Colorado River 3,000 second-feet at certain periods of the year for irrigation, but had only used that 3,000 second-feet to an aggregate maximum amount of 750,000 acre-feet, and thereafter the United States Government built a dam and stored waters that he had not been using, would that water user in the United States, under our law of the Western States, have any right to establish a right to those stored waters by thereafter using them?

Mr. SWING. He would not.

Senator MILLIKIN. Mr. Chairman, does the witness mean that a citizen building a dam across an interstate stream in this country, by virtue of that fact, and that fact alone, apart from beneficial use of the water, can keep someone below the dam from making valid appropriation combined with use?

Mr. SWING. I am thinking of the United States.

Senator MILLIKIN. I am speaking of within the United States.

Mr. SWING. Yes; the United States building a dam on an interstate stream.

Senator MILLIKIN. What difference does it make?

Mr. SWING. Well, I say that if that dam was dedicated to express uses named, whether it was on a notice of appropriation such as we record in the county recorder's office, or whether it was published in an act, those who used that water subsequently below the dam would take it charged with the knowledge of the uses for which the owner of the project intended to apply the water.

Senator MILLIKIN. Yes.

Mr. SWING. It would be subject to being taken over for the declared uses of the project if done within a reasonable length of time.

Senator MILLIKIN. Exactly. Now, the intervention of the United States in the problem does not make any difference, does it?

Mr. SWING. Well, I just stated that with reference to an interstate stream.

Senator MILLIKIN. So we again come to the question of user, do we not?

Mr. SWING. Well, you are coming to it.

Senator MILLIKIN. Is there any difference between the position of California and Mexico on the user problem? Neither has used as much of the stream as it hopes to use; is that correct?

Mr. SWING. Well, California is within the purview of this project.

Senator MILLIKIN. I understand that, but that is not the point I am driving at. California has not used all its water yet?

Mr. SWING. It has not used it, but it still has time within which to use it.

Senator MILLIKIN. And Mexico has not used yet water which she could use; is that not correct?

Mr. SWING. I do not believe Mexico could use any more water than she is using by using her own facilities.

Senator MILLIKIN. The testimony shows that she is using 1,800,000 acre-feet.

Mr. SWING. Not by her own facilities, but by the consent and active cooperation of the United States Government.

Senator MILLIKIN. How can we prevent her use of that water? We are not doing anything with it.

Mr. SWING. Well, the United States——

Senator MILLIKIN. Suppose the United States says, "We will not cooperate, and we will not give active consent."

Mr. SWING. Then the water goes down the river.

Senator MILLIKIN. The water would still go down the river?

Mr. SWING. Yes. Where would Mexico take it from?

Senator MILLIKIN. So this active cooperation and consent that you talk about is entirely——

Mr. SWING. Where would Mexico take it out to use it beneficially?

Senator MILLIKIN. She could build a diversion dam.

Mr. SWING. Not under existing treaties. They prohibit it. She cannot impede the navigability of that stream without a treaty.

Senator MILLIKIN. The compact expressly says the river is not navigable.

Mr. SWING. The compact does not say so, and the Supreme Court has held that it is.

Senator MILLIKIN. I will show you a provision in the compact which says that it is not a navigable stream.

Mr. SWING. No.

Senator MURDOCK. There is certainly a provision in the compact that says it is not a navigable stream.

The CHAIRMAN. Whether or not it is navigable in law, it is not navigable in fact.

Senator MURDOCK. By approval of the compact, Congress has declared that it is not a navigable stream, if I understand the situation.

Senator MILLIKIN. I do not have a complete copy of the compact before me.

Mr. SWING. I will supply it to you, Senator.

Senator MURDOCK. It is article 4 of the compact, page 38 of this Colorado River "bible" here.

Senator MILLIKIN. I read from article IV, section (a):

Inasmuch as the Colorado River has ceased to be navigable for commerce and the reservation of its waters for navigation would seriously limit the development of its basin, the use of its waters for purposes of navigation shall be subservient to the uses of such waters for domestic, agricultural, and power purposes. If the Congress shall not consent to this paragraph, the other provisions of this compact shall nevertheless remain binding.

Mr. SWING. May I give you my answer to that?

Mr. MILLIKIN. Yes.

Mr. SWING. Section 6 of the Boulder Canyon Project Act declares:

That the dam and reservoir provided for by section 1 hereof shall be used: First, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses and satisfaction of present perfected rights, pursuant of article VIII of said Colorado River compact; and third, for power.

Now, the very point you are raising was raised by Arizona in the case of *Arizona v. California*, and the Supreme Court said in 263 United States Decisions 423, at page 456:

But the act specified that the dam shall be used: First, for river regulations, improvement of navigation and flood control; second, for irrigation and domestic uses and satisfaction of present perfected rights; and third, for power. It is true that the authority conferred is stated to be "subject to the Colorado River compact" and that instrument makes the improvement of navigation subservient to all other purposes. But the specific statement of primary purpose in the act governs the general references to the compact.

The Supreme Court, therefore, held that the river was navigable within the meaning of the laws of the United States.

Senator MILLIKIN. Suppose we should refuse to cooperate? We are under, let us say, certain moral obligations to arbitrate if conditions demand. Do you not think Mexico would be justified in putting a diversion dam down there to protect her interests? And if she did, what could we do about it?

Mr. SWING. That is your question, Senator.

Senator MILLIKIN. I say that the answer would be that we could not do anything about it.

Mr. SWING. I think we could. We have the control of the river in our hands.

Senator MILLIKIN. We do not have it below the Mexican border.

Mr. SWING. No; but we have means to invoke the navigation treaty. She cannot acquire a right to water by violation of her treaties.

Senator MILLIKIN. Well, I mean she would claim a breach of treaty on our part because of our refusal to arbitrate.

Mr. SWING. For the first 20 miles below the California boundary—and that is where the established agricultural area of Lower California is—the river has a common boundary between Mexico and Arizona. Do you mean to say that we would not be able to prevent her from attaching one end of her dam to the State soil of Arizona, which is the soil of the United States? Why, we could blow the dam out of the water if we wanted to.

Senator MILLIKIN. I understand that a diversion dam could be built without attaching it to United States territory.

Mr. SWING. In those 20 miles? I am not an engineer. If you think it could be built there I will defer to your superior judgment in the matter.

Senator MILLIKIN. I am not an engineer either.

Senator WILEY. There is agreement on that then. [Laughter.]

May I ask a question, Mr. Chairman?

Senator GEORGE (presiding). Certainly, Senator Wiley.

Senator WILEY. There seems to be a difference here with relation to the interest of the several States and the Federal Government. It has been developed here this morning that previous to the construction of the Hoover Dam——

Does anyone object?

Senator GEORGE. No objections. [Laughter.]

Senator WILEY (continuing). That during 4 months there flowed down into Mexico, because that was the so-called rainy season I presume, approximately 720,000 acre-feet, or let us say 750,000 acre-feet.

Now, we have built Hoover Dam. We have regulated the flow, and I presume that the very purpose of that is to distribute this water so that those below the dam in the United States, and those in Mexico, will get the advantage of a more regulated flow; is that right?

Mr. SWING. That is certainly true of those in the United States. The act, as far as it goes, does not go any further, in my opinion, than the United States.

Senator WILEY. I do not want to get too technical about that. I am trying to get some agreement. We have agreed that neither you nor Senator Millikin is an engineer. So we have that much out of the way. [Laughter.]

The very purpose of the dam was to conserve water?

Mr. SWING. Absolutely.

Senator WILEY. And to regulate its flow for the beneficial interests of land owners?

Mr. SWING. Absolutely.

Senator WILEY. I might interject here that I am not an engineer either, so we can agree on that, but I am looking at it neither as a Texan nor as a Californian, but as one who wants to find the correct answer, if it can be found.

If it conserves water, and if a treaty should be entered into that would give to Mexico instead of 750,000 acre-feet the 1,500,000 acre-feet, is not the real issue, will that delivery of the initial water break contractual relationships with our own people and damage their property rights or what not? It seems to me that it is relevant to think that before Boulder Dam or Hoover Dam was constructed there were during 4 months of the year 750,000 acre-feet of water delivered—

admittedly so; I understand the Government claims more. Has not the very construction of the dam operated so that you can deliver the 1,500,000 acre-feet without breaching the rights of California? It seems to me that it is a question, instead of law and technicality, of fact.

Mr. SWING. I think you have something there. That is for the engineers, and we will have them testify as soon as I can be thrown out of the witness seat and get them started.

Senator WILEY. I want to compliment the witness, Mr. Chairman. I have enjoyed every moment of the time he has been on the stand. I am sorry, though, that as between Chairman Connally and Mr. Swing we could not have had a few more sparks, because that clears the atmosphere at times.

Mr. SWING. The last half of section 10 of the Boulder Canyon Project Act reads:

but the Secretary of the Interior is authorized to enter into contract or contracts with the said district—

that is the Imperial irrigation district—

or other districts, persons, or agencies, for the construction, in accordance with this act, of said canal and appurtenant structures, and also for the operation and maintenance thereof, with the consent of the other users.

There was the basis for the All American Canal contract: The express naming of the Imperial irrigation district. That contract was entered into, the canal and appurtenant structures have been constructed, and presumably in due time the operation of the canal will be turned over, as contemplated, to the district to operate in accordance with the provisions of that act and the contract language under the contract.

Senator McFARLAND. Right there, Mr. Swing, as I understand it, you admit that the water is the most important thing, and if there is any violation of any contract there, if the compact does not conserve water, this adjustment could be made by the Government with the Imperial irrigation district.

Mr. SWING. I think water is the very vital and important thing. Without that there would not be any controversy here. We would not even be here. You would not be holding this hearing.

Senator McFARLAND. That is right.

Mr. SWING. I think you are right. At the top of page 10 of this Project Act, section 13 (d), there is a matter that I think is of more than passing importance. Section 13 (d) reads:

The conditions and covenants referred to herein—

and those are the conditions and covenants of the Colorado River compact; and through this, because there was no assurance as to whether the compact would be put into effect—it had been negotiated and signed by the representatives in November 1922, but it had not yet been ratified by all the State legislatures of the States affected. Therefore, as this bill was pressing for consideration, the upper-basin States presented thirty-odd amendments, which Senator Johnson and I accepted in order to give effect to the Colorado River compact in this act, whether the compact itself became effective or not—additional safe-

guards and protections which the upper-basin States wanted in order to secure their rights in perpetuity to use the water if, as, and when they got ready, without regard to any technical laws of appropriation. So this section (d) reads as follows:

The conditions and covenants referred to herein—
that is the Colorado River compact covenants—

shall be deemed to run with the land and the rights, interests, or privilege therein and water right—

I shall skip down a few sentences—

shall be deemed to be for the benefit of and be available to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, and the users of waters therein or thereunder * * *

There is a statement by Congress as for whose benefits the conditions and covenants of the compact were intended. Mexico is not named therein. It names the Colorado River Basin States and the water users therein. But I think it is significant, from my point of view, in that it carries out the over-all contention that stored floodwaters are for the uses of those seven basin States or their citizens.

Senator MILLIKIN. May I ask a question please? Is it not significant to your mind that the later legislation of Congress, to wit, approval of the Compact, did refer to a treaty with Mexico?

Mr. SWING. You and I differ upon that. You take the position that the later date of its taking effect is important; I take the position that because the Boulder Canyon Project Act was written last, it is the last expression in the matter.

Senator MILLIKIN. The Congressman would not lay that down as a general rule for the interpretation of statutes, would he?

Mr. SWING. Well, I think it is like a codicil to a will; it is last written; it takes effect over the provisions of the will.

Senator MILLIKIN. Does the Congressman say that as between the two acts touching the same subject matter, the last in point of time may be superseded by the one prior in time, depending on when each one was written?

Mr. SWING. Well, I think arguments can be made; and I think the Supreme Court made the argument that the Boulder Canyon Project Act did modify—and I am going to contend that the Boulder Canyon Project Act did modify—the Colorado River compact in several parts, as soon as I can get to it.

Section 15 is, I think, the most illuminating of all the provisions of the Boulder Canyon Project Act. It carries out all of those provisions and all the intentions. It indicates that the Boulder Dam should be the cornerstone of the ultimate full development of the Colorado River Basin.

I recall that in closing the debate in the House, I said I was asking not for a project solely for California. It was only the beginning. It was the initiation of a program which I hoped would be continued until, as dam after dam was constructed and more and more of the waters of that river were conserved, the time would come when it would be the proud boast of the American people that not an ounce of energy or a drop of water in that great river was wasted.

So here, in section 15, we wrote in the authority and the directions of the Secretary of the Interior that he should proceed to carry on

a comprehensive survey of the entire Colorado River Basin for the purpose—

of formulating a comprehensive scheme of control and the improvement and utilization of the water of the Colorado River and its tributaries.

And, gentlemen of the committee, that has been done in large part by moneys made available by power users and water users in California, in the Readjustment Act, and by \$500,000 which was made available to the Bureau of Reclamation for the purpose of carrying out this very section 15.

Senator DOWNEY. You mean \$500,000 a year.

Mr. SWING. \$500,000 a year.

I hold in my hand a very voluminous report of the Reclamation Bureau which is entitled, "The Colorado River: A National Menace Becomes a National Resource. A Comprehensive Report on the Control, Improvement, and Utilization of the Water Resources of the Colorado River Basin." Where? In Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. I am not at liberty to quote this to you or to read from it to you. It is marked "Confidential." So I must simply say—

Senator WILEY. Who got it out?

Mr. SWING. The Bureau of Reclamation, in accordance with this act.

Senator McFARLAND. Do you agree with everything it says?

Mr. SWING. Senator, I have not read it. As an honorable man, I say to you that if I read it, I might be tempted to make some comments on it. It was received marked "Confidential." An humble citizen like me is not at liberty to go behind the scenes, although it was called for by section 15 of my act.

I want to ask you, gentlemen, Are you going to give away 1,500,000 acre-feet of water a year to Mexico in perpetuity and leave abandoned for all time American communities whose needs, whose requirements, are set forth authentically as the result of years of study of the Reclamation Bureau in these very Western States? Are you going to leave those States anemic forever for want of their own natural resources?

Oh, gentlemen, when I read in history of Cononado and the Spanish Conquistadores who traveled over the dusty desert roads of the Colorado River Basin, looking for the fabled Seven Cities of Cibola and the gold that was supposed to be there, they did not realize what we now must recognize, that the Colorado River was American gold.

I remember this little paragraph under a picture in the Reclamation Bureau, a scene of desert to be reclaimed by the use of water:

I am the desert, barren since time began, waiting for the coming of man to bring me waters for my thirsty lands and children for my empty arms.

So, gentlemen, it is possible to actually establish the Seven Cities of Cibola in the seven Colorado River Basin States, all according to the plan of the United States Government as was envisioned and contemplated by section 15 of the Boulder Canyon Project Act, unless we decide that we shall ourselves vote a limitation upon the use of our own natural resources in favor of a foreign country who contributes nothing to them. If you can do that, Senators, with water resources, can you not do it with the coal resources? Can you not do it with the

timber resources? Where can you stop under the great treaty-making power of the United States? I say, gentlemen, that there is occasion for us to pause and know more about our own country. Let us not sell America short. Let us not say that this great Nation, which in the West is only half developed, will not need this water. It does need it.

Without knowing what is in here, I say there are hundreds of worthy, meritorious projects which Utah, which Colorado, which Wyoming, which New Mexico want this Government to assist in constructing, which they have a right to have constructed in order to utilize their equitable share of this Colorado River.

The American needs for the national resources of the United States must take precedence over a proposal to be generous with this water, beyond the call of international law or treaty, to a foreign country.

Senator GEORGE (presiding). The committee will stand in recess until 2:30 this afternoon, in this room.

(At 12:40 p. m. recess was taken until 2:30 o'clock p. m. of the same day.)

AFTERNOON SESSION

The hearing was resumed at 2:30 p. m., on the expiration of the recess.

The CHAIRMAN. I will ask Senator Lucas to preside for a while.

Senator LUCAS (presiding). The committee will come to order. Do I understand that Mr. Swing was on the witness stand when the hearing closed this morning?

STATEMENT OF PHIL D. SWING—Resumed

Mr. SWING. I was on the stand when the hearing took a recess. I am willing to bow out with one, may I call it, correction involving a colloquy between Senator Millikin and myself. I do not know whether the Senator was just drawing me out with his question or not, as to when the Boulder Canyon Project Act went into effect. Of course I immediately thought of the date it was signed by President Coolidge, December 21, 1928, and of course I knew that the five States and California had subsequently ratified the compact on the six-State basis, and I did state in answer to you, Senator, that the Boulder Canyon Project Act went into effect December 21, 1928. I am sure you know better, and I do too.

Section 4 (a) of that act reads as follows:

This act shall not take effect and no authority shall be exercised hereunder and no work shall be begun and no moneys expended on or in connection with the works or structures provided for in this act—

in the absence of seven States ratifying it. But if seven States fail to ratify it within 6 months then when California and five other States ratified it on a six-State basis.

It also provides that the President shall so proclaim, by proclamation. Further, that California shall agree to the limitation prescribed by Congress in that section as a consideration to the passage and the act's becoming effective.

So, accordingly, on the 25th day of June 1929, President Hoover issued the proclamation called for by the act. The proclamation is as follows:

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

PUBLIC PROCLAMATION

Pursuant to the provisions of section 4 (a) of the Boulder Canyon project act approved December 21, 1928 (45 Stat. 1057), it is hereby declared by public proclamation:

(a) That the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming have not ratified the Colorado River Compact mentioned section 13 (a) of the said act of December 21, 1928, within six months from the date of the passage and approval of said act.

(b) That the States of California, Colorado, Nevada, New Mexico, Utah, and Wyoming have ratified said compact and have consented to waive the provisions of the first paragraph of Article XI of said compact, which makes the same binding and obligatory only when approved by each of the seven States signatory thereto, and that each of the States last named has approved said compact without condition, except that of six-State approval as prescribed in section 13 (a) of said act of December 21, 1928.

(c) That the State of California has in all things met the requirements set out in the first paragraph of section 4 (a) of said act of December 21, 1928, necessary to render said act effective on six-State approval of said compact.

(d) All prescribed conditions having been fulfilled, the said Boulder Canyon project act approved December 21, 1928, is hereby declared to be effective this date.

In testimony whereof I have hereunto set my hand and caused the seal of the United States of America to be affixed.

Done at the city of Washington this 25th day of June, in the year of our Lord One Thousand Nine Hundred and Twenty-nine, and of the Independence of the United States of America, the One Hundred and Fifty-third.

HERBERT HOOVER.

By the President:

[SEAL]

HENRY L. STIMSON,
Secretary of State.

(No. 1882)

So, as I suspect, you probably knew that the compact and the Boulder Canyon Project Act became effective simultaneously. Is not that your interpretation?

Senator MILLIKIN. I would not want to pass on that "off the cuff."

Mr. SWING. I would like that to be my correction in answer to your question, Senator.

I had stated that I would answer some other issues raised, but I feel that I have taken an inordinate length of time before the committee. There are other witnesses who are going to appear and who are going to discuss these subjects, and unless the committee desires that I proceed further I am willing and ready to bow out of the picture. I feel sure you will get all the information, particularly the engineering data, from the next witness, who will be C. C. Elder, an engineer, who will discuss the physical facts.

Senator LUCAS (presiding). Are there any other questions, gentlemen? If not, Mr. Elder will take the witness stand.

**STATEMENT OF CLAY C. ELDER, REGISTERED CIVIL ENGINEER,
LOS ANGELES, CALIF.**

Mr. ELDER. My name is Clay C. Elder. I am a registered civil engineer of Los Angeles.

I find myself likely to be differing from statements of other engineers, especially on return flow, which has become a major issue.

Senator McFARLAND. Will you differ from me too?

Mr. ELDER. I am sure I will not differ very much from Senator McFarland.

It seems necessary, unfortunately for the record, to qualify a little more than previous witnesses, such as attorneys-general and Congressmen, have found necessary.

I am a graduate of the University of Utah, in engineering, and practiced civil engineering, irrigation, and water supply first in Idaho; later in every State in the Colorado River Basin. After 2 years with the Army engineers in France, 1917 to 1919, I was an engineer for 7 or 8 years with the Bureau of Reclamation. My work there was entirely water supply, planning, and investigation of projects. I happened to precede in the Planning Division the previous witness, Mr. Riter, and our work was similar, except that I preceded him in that work. I was assistant to the Chief Planning Engineer of the Bureau of Reclamation until recently, Mr. E. B. Debler. The chief item of my work of interest here was the so-called Weymouth report on which the Swing-Johnson bill is generally considered to have been based; one subject involved being Colorado River water supply studies on which I worked for several years.

After that I accompanied Mr. Frank Weymouth to Mexico, where I worked under Mr. Weymouth's direction for about 2 years, first on planning of a large project on the Rio Conchos, a tributary of the lower Rio Grande, which is a factor in making the proposed treaty with Mexico, and other projects in Sonora, and finally in Mexico City—general water supply studies for additional irrigation and domestic use.

Sixteen years ago I returned with Mr. Weymouth to Los Angeles and have since been employed by the Metropolitan Water District as an engineer engaged on investigations, planning, financing, construction, and finally operation at present of the Colorado River aqueduct. So we are actually Colorado River water users today.

That sums up the professional type of my work. I am a member of the American Society of Civil Engineers, American Waterworks Association and other national societies.

I am here today to speak as a general witness for the State of California, being also a representative and technical adviser of the Colorado River Board of California, rather than as an engineer for only the Metropolitan Water District. However, information pertaining to my own project, the Colorado River Aqueduct is, of course, best known to me.

I have been asked to give a little general geographical information, first, in order to lay a basis for the testimony of later witnesses. So, referring to the map on the wall, perhaps the best start on it will be by using what is already in the record.

Senator McCarran previously put into the record a resolution passed by the recent Colorado River Water Users Conference at Las Vegas, Nev., January 12, 1945.

On invitation from the Governor of Nevada, as a Colorado River water user, I attended that conference, a 2-day session. The attendance was large enough, spread over the whole basin, so that by running down the list of water users who attended that meeting and signed the resolution which is now a part of the record, we can get a pretty thorough idea of the water users throughout the Colorado River Basin.

We start out on this resolution, which is already in the record, with the State of Arizona, the Salt River Valley Water Users Association. Representatives of that association attended and supported the resolution opposing the proposed treaty.

The Salt River Valley Water Users Association is identified with this area in green color [indicating on map]. They have 240,000 acres under their control and have similar problems with an area of 400,000 acres, including some adjacent lands.

The Gila Valley irrigation district, also in Arizona, had representatives at that meeting. They are located in the extreme southeast corner of Arizona and on up to the New Mexico line.

Another association, the San Carlos irrigation and drainage district, had representatives at the meeting. Their area is near Florence, southeast of Phoenix; all these areas compose what is now called the central or Phoenix area of Arizona, which is prominently mentioned in the testimony.

I believe a delegate started to the meeting from the Yuma project, but wartime tire trouble or something similar blocked him. We had a wire from him stating that he was against the treaty. That is this green area [indicating on map].

The State of Colorado was the next on the list. Three delegates appeared from the southwestern Colorado water conservation district. They represented an area in western Colorado, in the Gunnison region. The La Plata River Basin was also represented.

The State engineer of California signed for the State of California. The Colorado River Board of California was represented by its chairman.

Senator MILLIKIN. Who signed for the State of Colorado?

Mr. ELDER. The State engineer, Edward Hyde, who will be a later witness, signed for California. He was in attendance.

Senator LUCAS. The witness meant California but he said Colorado.

Mr. ELDER. My mistake.

Senator MILLIKIN. I understood him to say finally that the State engineer for California signed for Colorado.

Mr. ELDER. I followed up immediately by the statement that the Colorado River Board of California was represented by its chairman, which perhaps confused the record. The chairman of the California Board of the Colorado River was also in attendance, and he personally signed for the Imperial irrigation district, representing over 400,000 acres in the Salton Sea area.

The Metropolitan water district of southern California was represented there. We are off the map, somewhat out of the basin by ordinary definitions.

The Coachella County water district was represented, as were also the oldest water users of the Colorado River—the Palo Verde irrigation district. The city of San Diego signed the resolution, and is badly in need of water. They were well represented at the meeting.

The city of Los Angeles also appeared, because most of the Colorado River aqueduct water is dedicated to the city of Los Angeles—two-thirds of it, in fact.

The State of Nevada was represented by its State engineer, speaking for the Governor of Nevada; also its attorney general. They

had county supervisors of the area, Clark County, that is to be benefited by water pumped from Lake Mead above Boulder Dam.

The city of Las Vegas, the largest city in southern Nevada, was also interested, and had delegates present.

Turning now to the State of Utah, the Metropolitan water district of Salt Lake City, conserving and distributing water in the vicinity of Salt Lake City, was represented. I understand their aqueduct is near completion now.

There were also present representatives of the Provo Water Users Association, which imports water from the Colorado River Basin to distribute to Salt Lake City and vicinity, which explains its interest in Colorado River matters.

An area in the Colorado River lower basin of Utah was well represented at the meeting.

The Virgin Canal Co. was represented.

The Utah Water Users Association had a director there, W. B. Mathis. He signed as a director of that association. I understand from my friend Mr. Wallace that the association has not passed a resolution either pro or con, but this particular director signed as a director, in the capacity of an individual, I believe.

That is explained because the record, when Senator McCarran appeared, became a trifle confused on that point.

The Hurricane Canal Co. and the city of Hurricane, the Virgin River Water Users Association, the Bench Lake Irrigation Co., the Utah Water Resources Division, the St. George and Washington Canal Co., and the La Virkin Canal Co., all in southwestern Utah, were represented.

Finally making a jump to the State of Wyoming, the Green River Development Co. was represented by two delegates who also have interests in the Green River basin of Utah.

As near as I can put the figures together, those water users represented 80 percent of the actual bona fide present-day water users of the Colorado River basin, both the upper and lower basin. They voted unanimously. There was no question about how they felt after the treaty was thoroughly discussed for 2 days. Their attitude was made very plain to everyone present there, and is on record with the committee.

So much for that meeting.

My particular interest in this treaty matter relates to water supply. But to start on water supply we have to go to the river-gaging stations on the river. We have nothing but the statistics that come from the river-gaging stations. One could say now, after many years of hard work, that the Colorado River is perhaps the best gaged, best recorded river, in the country, for a large river.

We have several gaging stations in the vicinity of Yuma, particularly one on the main river at Yuma, with supplemental ones. Additional stations will later be needed, but the situation is in fair shape now.

Other stations, intermediate, have been maintained for a time, but now we have one below Parker Dam where the Colorado River aqueduct diverts the water to Los Angeles.

The next important station is at Boulder Dam, although there is one maintained here at Topock [indicating on map] for some purposes.

One of the key stations on the river is at Grand Canyon. Another station that is the most important of all under the compact is near the Utah line at Lee Ferry. There the water is divided between the upper and lower basin for compact purposes. All the important tributaries are of course gaged.

One point about all these gaging stations is that they have been initiated at various times as money could be secured by the United States Geological Survey from Congress. Wartime activities have interrupted the work at times.

In studying the records one has to follow them for many years. One record will go back to 1897 and constitute a key record that many other records can be built on. But a break will come in that record, and one has to shift to the best station he can find to fill out that break. Then as one investigates the subject and more and more stations are available, it means that greater and greater accuracy results in any work based on those statistics.

The Bureau of Reclamation for years, at the time I was with them and in much greater detail since, has been building up its record. They have what I call an excellent record now that all of us agree on substantially. When Mr. Riter put figures in the testimony based on those gagings, and not on any interpretation of the compact or speculations, those figures are accurate and acceptable. When I say they are accurate I mean that some are within 1 percent of final accuracy. I think Mr. Riter would agree that others are only 5 percent or in some cases 10 percent accurate.

In this work we have to get started somewhere, so, for all practical purposes, I think all engineers engaged in this work are accepting the Bureau of Reclamation's records as substantially correct and accurate. They are, for the raw record, as we call it. We have to correct for what has happened since 1897. Many projects have been built since 1897 or increased their diversions so that if the exact climatic conditions of that date recurred we would not get the same water at downstream points. There comes in, alas, the personal question. We do not have enough records to know exactly how much water is used, for example, through the upper basin in every year of the 48-year record. But, again, engineers have done their best, and the records are quite satisfactory for present purposes even though necessarily based on estimates.

What we are really interested in is what water is going to be available 10, 20, 50, or 100 years from now. There speculation and guess become predominant. We just do not know what is going to happen in the basin at all. Perhaps both Houses of Congress will speak on the subject and tell us on which projects the water is going to be used. After they have done that, the engineers will have their turn and become quite accurate on the subject again. It does involve an element of speculation when we talk of 50 years from now, but we have to take in that period. In building the Colorado River aqueduct, present flow was of little importance to us, because everyone here knows that the water has for the present got to pass our headgates, and all the other headgates, into the Gulf of California. We do know that such a condition will not exist 40 or 50 years from now. It will not happen even 5 or 10 years from now, in years of drought.

Boulder Dam went into operation February 1, 1935, with the worst drought on record occurring in 1934. The State Department intro-

duced an exhibit here, a chart, showing that at Yuma, at the gaging station under the bridge at Yuma, the flow was 19 second-feet. I think on August 20, 1934, some return flow came in, down at the head of the Imperial irrigation diversion, of about 200 second-feet. That was divided 50-50 with Mexico which as of that date was trying to mature cotton and other crops. Instead of 3,000 second-feet it had 106 second-feet to start down that long canal. It suffered some losses before it got to its destination. So, for practical purposes both sides of the line were out of water for several weeks in 1934. The river below the heading of the Alamo canal was dry for 5 months in 1934. A sand dam was built below the canal, and every drop of water that could be taken into the canal there was diverted. That was the physical picture of the river.

After working up these statistics, we have what we call the long-time average. That was put into the record in good shape by the State Department witnesses. Questions were asked, as to shorter periods, short-time critical periods, 10- or 11-year shortages that occur and really affect the storage reservoirs. The State Department seemed totally unaware of the fact that those critical periods are the major factor in Colorado River water supply. They passed the buck, perhaps wisely, to the Bureau of Reclamation. I know personally that the Bureau of Reclamation is familiar with that matter.

Between 1897 and 1904 a very serious drought occurred, and we made Boulder Dam large enough to fit that period. The studies of 1922 to 1930 had a certain accuracy. But before the dam was really in operation the worst drought had occurred, 1930 to 1940, and that is now the critical period for all the water-supply studies of the river. We now have to fit our expectations to that supply.

At the time the contracts were made, about 1930, the river records indicated that the expected quantity of water below Boulder Dam in the future, as of about 1980, was possibly an average of 10,500,000 acre-feet.

Now the Bureau of Reclamation has determined, and fairly conservatively, that 8½ million acre-feet is all we can expect to have released from Boulder Dam if a period like 1930 recurs, 30 or 40 years from now.

When the upper basin is fairly well developed, I think it only requires a development of the upper basin of about 80 percent to diminish average releases from Boulder Dam, and also Davis Dam to about 8½ million acre-feet. That estimated figure is not absolutely determined by any means. Other engineers have reduced it to as low as 7,900,000 acre-feet; but 8½ million is the approximate figure that we can probably agree on.

There are 300 miles of river channel below Boulder Dam before we reach the Imperial Dam on the American side of the boundary. Six hundred thousand acre-feet, conservatively estimated, will be lost in that river channel under ultimate conditions, in order to deliver the water to Imperial Dam. So, 8½ million acre-feet is reduced to 7,900,000, any way you figure it.

As to the contracts that will be put in evidence here I will not try to go into details. I have had to defend those contracts in Washington before. When we were financing the Colorado River aqueduct I was sent on to appear before the Reconstruction Finance Corporation, with

other metropolitan water district officials and lawyers. Mr. Jesse Jones had not resigned in those days, and he was hard-boiled before he let us have any money. He had a board of six engineers that had to be shown as to the water supply and all other engineering factors that were going to be security for the loan. We convinced them that our water supply was a good water supply, because the Government was back of it; the Government had signed the contract. They read the Boulder Canyon Project Act over—the compact and all the other documents—and talked about it for 4 months, as I recall it. But they did accept our bonds that were based on the water contract, among other things, but, in my opinion as a water-supply engineer, primarily on that water contract with the United States Government.

The other projects had similar experiences. Every contract had to be validated, you might say, in Government departments or on the public market, before the projects could become operative. Later the R. F. C. saw an opportunity to put our bonds on the public market. At their request I was sent to New York before the Chase National Bank and a syndicate of about 60 bond houses, and I again had to go through an explanation of our water rights and contract. Those men were not quite as thorough as Jesse Jones. It only took us 2 days to convince that audience that the water supply and rights were valid. I guess they knew that the R. F. C. had put us through an inquiry on every issue. Anyway, they again made those water contracts in part the basis of about \$180,000,000 worth of bonds which are now in the hands of the general public. My own insurance policy is supported by a reserve that has \$5,000,000 of those bonds. I think they are quite widely held by insurance companies throughout the country.

The bonds of the other California projects are in a similar category.

Besides the California contracts there is a Nevada water contract that I am sure they will tell you later is equally sacred to them.

Arizona has a contract for 2,800,000 acre-feet out of the main stream of the Colorado River. Those contracts add up to 8,462,000 acre-feet.

We started off with 8½ million acre-feet at Boulder Dam, but in order to deliver it we lost some on the way. We have 7,900,000 acre-feet to do the work that needs 8,462,000 to supply. That is, without a drop going to Mexico. We already, within a period of a generation, I should say, face an inevitable shortage in the lower basin in the main stream of the Colorado River, whether Mexico is allowed a drop of water or not.

I know nothing about international law and little about water rights, but I can add up simple arithmetic; and there is a water shortage coming on the lower Colorado River whether Mexico gets a drop or not. This is more evidence of why we really worry whether Mexico gets 750,000 acre-feet or 1½ million acre-feet. The shortage of water to the lower basin can be doubled by whether Mexico gets the water allotted by this proposed treaty or does not get it.

You have been told here that after all the treaty means 3 percent or, at most, 8 percent of the water supply. That is just nonsense and is meaningless, in that 16,000,000 acre-feet referred to in the compact is dedicated to the basin States. It is not all in use by them yet, but it is all allocated. Projects are based on that water. Every drop of that water is planned for use two or three times over in most watersheds of the basin, to my own knowledge. So that 16,000,000 acre-feet is taken up and gone.

What we are dealing with now is the surplus beyond that allocation. We are told that we cannot do anything with that surplus until 1963. The compact says that we cannot perfect that right until 1963. That is an added handicap, of course, as I presume it is true. But we are initiating rights in that surplus that are going to stand up, I am sure. We are vitally interested in the surplus. We have built our aqueduct project to divert 1,500 second-feet for the southern California coastal plain, but half of that capacity will be totally lost and wasted, in my opinion, if the effects of this treaty are reflected entirely on the California needs. Without a compact between the lower basin States I do not think anyone can designate just which State will suffer the most. I cannot myself, and I have tried. But the lower basin will be hurt, and hurt badly, and that hurt will not be confined to the lower basin.

It takes a lot of engineering and arithmetic to show it, and a lot more time than you want to use here, but the Colorado River contracts in the lower basin and important water rights in the upper basin are put in jeopardy by this treaty.

The real subject, I believe, that I was supposed to talk about, and perhaps will not need the map for unless questions start, is return flow. It has been rather fully discussed here during recent days.

Senator AUSTIN. May I interrupt by a question?

Senator LUCAS (presiding). Senator Austin.

Senator AUSTIN. I am not clear about one of your recent statements; that is, that half of the quantity contracted for to California will be lost if the treaty should go through. That is not quite clear to me.

Mr. ELDER. I have in mind one possible compact interpretation, at least, that this question involves and which is believed in by some of those present here. The second half of the water right of my particular project may depend on surplus, and, in my opinion, the surplus, if devoted to satisfying the treaty provisions, cannot also be available for a second water diversion and will not go into California or Arizona either under those conditions.

Senator McFARLAND. Mr. Elder, under the compact this water for Mexico will first be supplied out of the surplus water, will it not?

Mr. ELDER. I am sure of that; yes, sir.

Senator McFARLAND. If we should concede that Mexico is entitled to 750,000 acre-feet of water, this treaty gives them 1,500,000 acre-feet of water, which makes 750,000 acre-feet of water which, as I understand it from the people from California who have already testified, you state they are not entitled to. Half of that you are entitled to under the act of the legislature; that is, half of the surplus. So that 750,000 would have to come out of the surplus, which would make 375,000 acre-feet of water involved in California, would it not?

Mr. ELDER. That is one interpretation of the treaty, Senator. My own is much worse. The treaty says, in one place, $1\frac{1}{2}$ million acre-feet, and in another place 1,700,000 acre-feet. In my opinion, it means that usable water has got to be supplied to Mexico, and it may require upwards of 2,000,000 acre-feet to actually accomplish that promise.

In another place it says winter schedules are prescribed, which, in my opinion, will mean additional water going to Mexico, possibly 200,000 or 300,000 acre-feet, that will not be charged to Mexico.

In addition, if there is any return flow from the Yuma Mesa, much of it will go into the Colorado River too far downstream to be counted

as credit to the United States. Instead of $1\frac{1}{2}$ million acre-feet I think that the treaty means 2 million to $2\frac{1}{2}$ million acre-feet that the basin is going to lose.

Senator WILEY. Is that due to the inaptitude of the English language?

Mr. ELDER. I think part of it is due to skill in writing the English language, to make it say something different from what it means.

Senator WILEY. It is aptitude, not inaptitude.

Senator McFARLAND. I was, of course, assuming in my question that the United States was obligated to deliver $1\frac{1}{2}$ million acre-feet, and I was wondering what it would mean to California under their interpretation of the treaty. It would mean 375,000 acre-feet of water, would it not?

Mr. ELDER. Perhaps you conceive it as half the surplus. I know some close personal friends in Arizona do not. There is no lower basin compact that says so. Just what the final result will be as between our two States we cannot determine as an engineering matter. Perhaps you can, as a legal matter.

Senator McFARLAND. I am just speaking of the act of your own legislature. Do you mean to claim over half of the surplus?

Mr. ELDER. You will recall the difficulty we have in deciding where the Gila comes into the Colorado River compact. That does not concern us much here, but it is an essential part of any such interpretation or explanation.

Senator MURDOCK. Do you mean to imply, Mr. Elder, that the Mexicans are more skillful in the use of the English language than are the representatives of the United States Government?

Mr. ELDER. I would not imply that, sir; I would say it right out. That is a habit I have.

Senator McFARLAND. I will not ask any more questions in regard to interpretations. We might get into a needless discussion about interpretations.

Mr. ELDER. That is right, sir.

Senator McFARLAND. And you are here, of course, to testify as an engineer.

Mr. ELDER. That is all; absolutely all.

Senator MILLIKIN. I should like to ask the witness whether someone on behalf of California will demonstrate each of those items before the case has been made.

Mr. ELDER. They certainly will if you ask them to.

Senator MILLIKIN. Which ones? Is someone going to do it, or is it to be done piecemeal, or how are we going to get at that? When you say this means 2,000,000 acre-feet, of course, that is a startling statement and a very important statement, and it should be demonstrated seriatim. I was wondering whether someone was going to do that.

Mr. ELDER. The other witnesses are all good witnesses, but, if you have any questions, I will certainly try to answer them.

Senator MILLIKIN. If no one has been delegated to do it, I do not relish the task, but I would appreciate it very much if you would take it, item by item, and support your theory in relation to the language of the proposed treaty.

Mr. ELDER. The language of the proposed treaty, of course, does get away from engineering and becomes legal, and the lawyers that follow, I have supposed, have in mind those very items. I summed

them up very briefly, not in the exact language of the treaty, but we all know that 1,700,000 acre-feet is something that in some years by the treaty can be given to Mexico. In years that the Commissioner decides we have a surplus it will be ruled as we fear it, that the additional quantity must be released from storage for the benefit of Mexico.

Perhaps I do not understand it correctly, but as I read the water-supply clause of the treaty, 1,700,000 acre-feet will have to be given Mexico in so many years that it will become almost the usual delivery; not 1,500,000 acre-feet. That is because we are dependent in the lower basin at present and ultimately in the upper basin as well, on hold-over storage. We may have a very dry year and yet have our reservoirs nearly full. In that year there will be no problem to make deliveries to the irrigation projects and domestic aqueducts in the United States. They will draw from that supply, because that is what hold-over storage is planned for. But in that year the reservoir contents will fall considerably, and we should be nursing our stored water very carefully in case of a succession of dry years that may follow. We will not know when this repetition of the drought is coming; all we know is that it is inevitably. We have 1 dry year, and we hope it will rain the following winter. Maybe it does not, and we have 2 dry years. In the 1930-40 period, no one dreamed that 1934, a very dry year, would be followed by several dry years that made a cumulative effect far more severe than 1 extremely dry year.

So we see 1,700,000 acre-feet going out of our reservoir just too often to protect our hold-over storage or make it possible to have the reservoir properly filled when the unexpected extraordinary drought cycle finally is on us.

That is the first item.

Senator MILLIKIN. As to that first subject, is it not to be assumed that our own representatives in deciding the matter would decide as to surplus on a fair basis to us?

Mr. ELDER. I am sure they would attempt to. Yet the very language of the treaty may prevent them from protecting our hold-over storage as we water users know it needs to be protected.

Senator MILLIKIN. Do you see any ambiguity in the treaty that would compel them to regard something as surplus which was not surplus?

Mr. ELDER. Perhaps not compel them; but normal interpretation of that clause, I think, would have 1,700,000 acre-feet going out of Lake Mead so often that the effect would be very serious to us.

Senator MILLIKIN. That rests on your fear that they would not make a proper construction of the word "surplus"?

Mr. ELDER. Very largely, sir.

Senator MILLIKIN. What is your next item?

Mr. ELDER. I may not get them in the same order this time, but it will not matter. They all affect the result, however.

The return flow from the Yuma Mesa, we are sure, because of the slope and geology of the land, will go partly into the Colorado River section between the upper and lower boundaries, but with respect to at least part of the flow, below the lower boundary, the United States will get no credit for that, as I read the treaty, and the return flow figure that will be discussed later must take a discount due to that, and Mexico will have a larger amount, drawing on Lake Mead for it. It

all comes from Lake Mead, because that is the only dependable source of water supply in the lower basin, since the tributaries are over-appropriated.

Senator MILLIKIN. That figure does not affect the fact that they are taking 1,850,000 acre-feet now for irrigation?

Mr. ELDER. On that subject it does not lend itself exactly to the question you started with, but I find from personal investigation below the line and a study of the United States Geological Survey records, that the amount seems considerably larger than we can find any actual use of below the line.

A year ago, when the treaty was first announced—I might be in error in my recollection but we were told that the amount of water used below the line was slightly in excess of one and one-half million acre-feet, because the treaty said one and one-half million acre-feet. In my opinion, the mentioned 1,700,000 acre-feet is going to be of great importance in considering the treaty and this seemed to be realized more and more as time went on; and the estimates—it is not prevarication; it is just estimates—are now built up to 1,800,000 acre-feet correspondingly.

I base that in part on the fact that as near as I can read the State Department evidence as introduced here, the determination of 1,800,000 is simply 300,000 acres multiplied by 6 acre-feet per acre, or a very crude estimate.

The United States Geological Survey has a figure for 1943 of 1,168,000 acre-feet as the total Alamo canal diversion for a 12-month period into Mexico, crossing the international boundary. That is reported as for substantially 200,000 acres or perhaps a little more. In addition to that there are 9,000 acres mentioned or listed on the Sonora side, to get water from the Yuma project. Perhaps the 6 acre-feet could be granted on that. I think that is high, however, because of the type of crop and the short irrigation season. I just do not understand that claimed amount of 1,800,000 acre-feet being necessary for diversion, as it permits large wastes, careless use of water, and heavy return flow for reuse.

Senator MILLIKIN. Are you challenging that figure of 1,800,000 acre-feet?

Mr. ELDER. I do challenge that figure. From the viewpoint of the treaty and this hearing I think it is unreasonably high and improperly and inaccurately high.

Senator MILLIKIN. Will California submit her own figures on that?

Mr. ELDER. That challenge is purely personal on my part. I have investigated it personally. What other witnesses for California think about it I do not know.

Senator MILLIKIN. You are submitting what you are saying now to sustain whatever your theory may be on that?

Mr. ELDER. The publication of the United States Geological Survey is of course official. It can be put in evidence. That figure is the Government's own figure.

Senator MILLIKIN. Do you know whether or not the other witnesses will challenge that figure of 1,800,000 acre-feet?

Mr. ELDER. Well, most of the other witnesses are lawyers, businessmen, and officials, and I would be surprised if they thought they were qualified to do so.

Senator MILLIKIN. Going back to the return flow proposition, that, if sustained, would be an offset to the theory of the proponents as to return flow?

Mr. ELDER. Yes, sir.

The other item that your original question called for was the winter schedule, which I had not worried much about until the Bureau of Reclamation engineer, Mr. Debler, challenged it immediately when the State Department first presented this story to the Committee of Fourteen and Sixteen at Salt Lake City on or about January 28, 1944.

Then, just before the treaty was signed, it became evident that Mr. Debler, then chief investigating and planning engineer for the Bureau of Reclamation, had not been consulted and had been given no opportunity to see the winter schedules before. But he could not agree with them at that time. It is in the transcript of that meeting. I am trusting to my memory, as I have not reread it. It was a year ago, but I do recall that he questioned the effect of the winter schedules immediately. I believe in your State Department evidence as compiled here is an exchange of correspondence that attempted to clear up that matter. Whether Mr. Debler is satisfied or not I do not know, but personally I do not believe the question is settled at all. The correspondence would indicate that it was a matter of personal honesty and integrity on the part of the Mexicans. It is really no such thing. Water happens to be a commodity that anyone in the world will steal if he is in a desert and needs water. I have been behind a sagebrush in Utah and have seen one farmer shoot down another farmer because the irrigation head gate was being tampered with. Perhaps that could happen here. I don't know and hope not. But those schedules are subject to interpretation. I think they can work out so that uncredited water will go to Mexico as a result of that part of the treaty.

Senator MILLIKIN. How much water does your last, your third prong, involve?

Mr. ELDER. That is certainly a very vague, undetermined quantity, just depending on the season and type of run-off, and other factors. I think it could amount to 200,000 acre-feet without difficulty, particularly on the basis of the State Department estimate of returning flow.

Senator MILLIKIN. So that the two items that you bring up roughly might make a difference of 400,000 to 450,000 feet?

Mr. ELDER. In addition to the 1,700,000; yes, sir; or in excess of 2,000,000 I think could be built up without being unconservative at all.

Senator MILLIKIN. I did not care to chase this rabbit out of the bush at all, but since you brought it up I wanted the engineers for the proponents to know the full scope of the theory.

Mr. ELDER. That is proper.

Senator MILLIKIN. So that they can rebut it, if they can.

Mr. ELDER. I am sure they can, and will; and my understanding or disagreement will remain after they have done so.

Senator MILLIKIN. Let me ask you another question. You have not finished testifying, have you?

Mr. ELDER. Not on this return-flow subject. I think that is all the general things.

Senator DOWNEY. Mr. Chairman, if I may ask one question. Mr. Elder, did you not at the beginning of your testimony say that you

thought the treaty, the way it was written, might require additional water in order to take care of the possibility of undue salinity in the water? Was not that one of the items you mentioned, or did I misunderstand?

Mr. ELDER. No, that was one that, in recasting, was not mentioned. That dilution could be an important factor. The previous witnesses have insisted that it is impossible, it cannot happen to us. We still think that there is a certain vagueness there that should be cleared up before the treaty—an important treaty like this—should be ratified.

Senator DOWNEY. In other words, you would like to see written in the treaty what our witnesses and the State Department say it means, "regardless of quality"?

Mr. ELDER. That would go a long way toward satisfying me as a water-supply engineer; yes, sir.

Senator DOWNEY. At least on that one item?

Mr. ELDER. On that one item.

Senator MILLIKIN. Mr. Chairman, may I ask what is vague about the words "regardless of quality"?

Mr. ELDER. The vagueness results from the omission of that phrase. Well, the return flow again comes in on that question, and some of the witnesses seem to think that return-flow water is going to be so salty that it would be unusable on American acreages. In that case perhaps a fair description of it would be "salty brine," not water at all. Now, the treaty says we will deliver water. If that includes salty brine for an irrigation project I would not want to support that theory, as a water-supply engineer; that is all.

Senator MCFARLAND. Of course, Mr. Elder, I do not know whether Senator Millikin was here or not, but after the mixture of the return flow, they testified as to 2,700 parts to a million. Now, that did not include the additional 5,000,000 acre-feet that would have to be supplied. You would not call that "brine," would you?

Mr. ELDER. No, that is not brine. Farmers do not like it, but if they can get nothing better, they can raise some crops with it, and if that water is available, my contention is that it will be used in the United States and there will be a negligible quantity of return flow reaching the boundary.

Senator MCFARLAND. Of course, a good portion of that was—I may be wrong in my recollection of the testimony, but the return flow around the Yuma area, I believe, was estimated would be about 15 parts per 1,000,000. You would not say that water was too bad, would you?

Mr. ELDER. That figure would not make engineering sense, to me, Senator. I do not know where the decimal point belongs in it, to be frank with you. The water coming from Lake Mead has now about 700 parts per 1,000,000, and nothing in the Yuma vicinity of course can be less than that.

Senator MCFARLAND. That is right, but then this water down there, very little of it could be reused, it would be used just once?

Senator AUSTIN. Mr. Chairman, may I ask a question?

Senator LUCAS (presiding). The Senator from Vermont.

Senator AUSTIN. Must we assume that where the treaty guarantees 1,500,000 acre-feet, that that is talking about water that is suitable for beneficial use?

Mr. ELDER. That is my immediate assumption as a water-supply engineer, and I cannot accept any other, under the comity of nations, perhaps, unless it is written into this treaty more exactly than now.

Senator AUSTIN. Then is the corollary of that true, that if you poured down there 2,000,000 acre-feet, but it was not suitable for beneficial use, that would be a violation of the treaty?

Mr. ELDER. If I were a Mexican official I would certainly contend that, in the face of the language of this treaty.

Senator AUSTIN. Well, as we study it, we have to look at it in the worst possible light.

Mr. ELDER. That is the way we attempt to, of course. We are fearful of various contingencies, only some of which may happen, but enough of them are going to happen to put us in trouble with it.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

Senator LUCAS (presiding). Senator Millikin.

Senator MILLIKIN. Senator Austin, the language of the treaty, article 10, chapter 3, starts off as follows:

Of the waters of the Colorado River, from any and all sources, there are allocated to Mexico—

1,500,000 feet.

I think the testimony has made it very clear that Mexico contemplates that included in the sources of water will be return-flow water, and Mexico, of course, is aware of the fact that the water for example coming from Arizona has very high salinity.

Senator AUSTIN. Yes, I understand, but the problem that is in my mind—and this may be in error, because I am not familiar with that southwestern situation—the problem in my mind is this: assuming that that is the true meaning of the treaty, that on that basis there should be a development in Mexico to the full extent of 1,500,000 acre-feet from all sources; then, afterward, if it should turn out that the surplus is not fit for beneficial use, does that not raise at once an issue that would invoke an arbitration?

Senator MILLIKIN. If the Mexicans understand the kind of water they are getting—and as I understand it the testimony has shown that they do—and if they contract in the treaty for that kind of water, I doubt whether it would be any subsequent ground for arbitrating the question.

Senator AUSTIN. Well, there would not be, if the treaty plainly stated “regardless of quality,” but as I interpret the treaty, that is one of the ambiguous features of it.

Senator MILLIKIN. I would like to suggest that when you say “from any source,” where it is clearly contemplated that a part of the source is water of high salinity, it meets the same point.

Senator AUSTIN. You may be right about that. That is what I am trying to find out. What is the practical interpretation of that, by men who are accustomed to the conditions?

Senator MILLIKIN. Mr. Tipton, who sat in on the conference between Mexico and this country, with the engineers, has testified that that issue was faced squarely, that Mexico understands exactly the kind of water she will get from return flow.

Senator LUCAS (presiding). Are there any other questions?

Senator McFARLAND. I would like to have Mr. Elder explain where he differs with the State Department engineers, giving his explana-

tion that he started out to give in regard to return flow. You have not really done that yet.

Mr. ELDER. No, that is a major part of any statement that I may make.

Senator McFARLAND. I think now would be a good time for you to give that major part of your testimony.

Mr. ELDER. Whenever you are interested in it, is the proper time.

Senator McFARLAND. I am always interested in it.

Mr. ELDER. I know you are.

Senator MURDOCK. Mr. Chairman, may I just ask this question in line with Senator Austin's question? If the Senate should make the reservation that the words "regardless of quality" would have to go into article 10, would that clear up most of the objections, Mr. Elder, that you called to our attention here today?

Mr. ELDER. On that particular item, it would seem to help us considerably. On the wording of treaties I do not pose as an authority. However, I try when I get one to see what it means in engineering language; but whether I am right or not, that is another thing.

Senator LUCAS (presiding). Proceed, sir.

Mr. ELDER. Yes, sir. On that return-flow question, we had several witnesses. They are all old friends of mine, so I cannot be as disrespectful to them, in commenting on the way they "passed the buck" in my opinion, as perhaps I would if they were total strangers. One spectator here after the meeting called it a sort of a description of a fast football game—there was a "triple pass," Lawson to Ainsworth to Lowry; they got away with that, but there was a near fumble, there, because Lowry did not answer the question, either, as I recall, but after an "intermission," "time out" we might say, the substitute team went in, and Mr. Tipton put in some evidence, and he made a sort of "forward pass" to my friend, Mr. Riter, and then we got a break-down of the return flow.

Senator LUCAS. "Breakdown" or "touch-down"?

Mr. ELDER. I did write my opinion on that when I was "all steamed up," but perhaps verbally I can do it just as well.

Senator WILEY. Well, was the break-down a fumble or the touch-down?

Mr. ELDER. I think he made a lot of yardage on that evidence. I think that most of his figures are sound engineering figures. I never disagreed with Mr. Riter, yet, and I have known him a long time, on actual arithmetic. Sometimes when we go back into the assumptions and interpretations we can get a little closer together; finally maybe we will be a ways apart, even in the end, but we won't be as far apart as we seemed on the original testimony.

The return flow of course mainly pertains to central Arizona and the Gila Valley, as Senator McFarland's interest in its shows. The current figures presented by Mr. Riter, those we must accept as the most probable story for the future, subject to a check-up in later years, because the projects are not built yet. Approximately however, as I understood, it was that 1,330,000 acre-feet per year would be taken into central Arizona.

Senator McFARLAND. Mr. Elder, you might explain to the committee why California does not contribute to the return flow?

Mr. ELDER. The item of 65,000 acre-feet was listed as coming from

the All-American Canal on the California bank of the Colorado River. The California projects do of course run waste and return flow into the Colorado River, but those projects are located either above the Imperial Dam or away from the river valley into the Salton Sea area, so that return flow goes into Salton Sea and is lost. Now, the return water above Imperial Dam, of course, is immediately reusable, by gravity, without pumping. It is diluted with the main river flow, and it is again divertible.

Senator McFARLAND. But the acreage is comparatively small?

Mr. ELDER. The acreage is small, and perhaps 65,000 acre-feet listed as lost is fairly small. I assume it is based on current figures of loss.

Senator McFARLAND. In other words, you use most of your water either in the metropolitan district for drinking purposes or in the irrigation where the return flow goes into the Salton Sea?

Mr. ELDER. That is correct. My own project has all concrete-lined structures.

Senator McFARLAND. I just thought the committee might not understand.

Mr. ELDER. That is correct, sir. The 65,000 acre-feet out of the All-American Canal, I assume, is based on recent loss determinations, with which I am not familiar, having long ago lost close connection with the Bureau of Reclamation. However, that canal when it was first put into operation lost rather heavily, and was, one might say, semilined or repaired and the loss greatly reduced.

It is not clear to me yet that that process cannot be continued economically sometime in the future, when this water becomes so valuable that the fact that we are all fighting over it now is not quite so absurd as it may appear to some of the eastern Senators, and 30 or 40 years from now it will be apparent why we were here. At that time I am satisfied that that canal, if it lost that much water, would require some lining or similar type of work, that would reduce that loss so it might be only half that much.

Senator McFARLAND. You are talking about seepage, now?

Mr. ELDER. Certainly; yes, sir.

Senator McFARLAND. Not return flow?

Mr. ELDER. Not return flow as you may think of it; but still it mingles with that, and is listed.

Senator McFARLAND. It has quite a bit to do with the quality of the water?

Mr. ELDER. It is listed in the 930,000 acre-feet total of Mr. Riter.

Senator McFARLAND. Yes, I know. Pardon me for interrupting.

Mr. ELDER. It is one item on the California shore. As to the central Arizona area, where 1,330,000 acre-feet was proposed to be imported; just how it would be, was not told us, because I am sure they do not know yet. That is not very material as to the return flow question, however.

Now, I made a personal investigation about the middle of December 1944, in the Phoenix area. I had previously been quite familiar with it, but I spent several days there with the officials of the Salt River Valley Water Users Association, and the United States Geological Survey engineers, who are making an intensified ground-water investigation over this central portion of the State. I have seen a good deal of that country from time to time, and have the current

figures in mind. The chief point is that the necessity for that imported water in central Arizona is overwhelming. One cannot be in Phoenix without becoming immediately aware of that, if you talk to water users or their officials.

Senator McFARLAND. Especially if you had been there in 1940?

Mr. ELDER. That was more acute. I attended a meeting there in 1940, and I recall that period when you were badly in trouble. The Salt River Valley people showed me a map with pins all over it, a map the size of the wall mirror, and there were 791 pins on it representing wells on that one relatively small project—240,000 acres, I believe. Those wells were so located by well-trained engineers, hydraulic engineers, that every drop of ground water in that valley is intercepted. A drop of water could not dodge one of those wells. It is just running the gantlet, like the red Indians used to have for the white man. Anyway, the capacity of those wells is somewhere in the neighborhood of 1,000,000 acre-feet a year. However, the wells pump only about 400,000 acre-feet now, I believe, because that is all they can get. They need more water. They provided the first pumps for drainage, but I think that is not an important factor now. In the last year or two, they have pumped for direct water supply more than anything else. Now, in other sections of central Arizona, similar intensive pumping has been resorted to in recent years. The best total that I could get was slightly in excess of, but may be rounded up for present purposes to a million and a half acre-feet that annually was being pumped from ground water in central Arizona. That covers the whole Gila Valley and the Salt River Valley, the basin above Gillespie Dam. Possibly less than a half, maybe only a third, really can be called safe yield, and the valley is suffering from a lack of imported water, that is the only answer there, of course.

Now, we had the same problem previously over on the metropolitan area of southern California.

Senator MILLIKIN. Mr. Chairman, may I ask a question, just for information?

Senator LUCAS. (presiding). Yes.

Senator MILLIKIN. In the use and reuse of that pumped water does the salinity increase?

Mr. ELDER. Yes. That water is pumped into irrigation canals, when the judges permit it, and reused, sir, time after time, until the salinity figures are as given in the testimony. The Salt River Valley Water Users Association spent \$250,000 on ground water investigations recently; \$50,000 of that was specifically to drill a row of wells across the lower end of the valley to determine what if any water was leaving the valley. One year they said 4,000 acre-feet was estimated as the total, and that came as seepage from local irrigation in the vicinity of Gillespie Dam, rather than real Gila Basin return flow. I think some evidence is already in that everyone concedes that no return water is leaving that area at present.

Senator MILLIKIN. My question is, by confining it that way and using it and reusing it by pumping, does the salinity increase?

Mr. ELDER. I recall the figures vaguely. Mr. Riter put them in evidence, and they came, according to my memory, from the same original sources, I am sure, that I studied at Phoenix of 7,000 or 7,500 parts per million for wells in the western portion, starting about 300 or 400 parts per million in the mountain reservoirs to the east.

Senator MILLIKIN. That is pretty high salinity.

Mr. ELDER. It is getting up toward the limit; yes.

Senator MILLIKIN. So that if that process were expanded and continued, ultimately you would destroy the lands you are pumping for?

Mr. ELDER. That is of course theoretically true. That raises the problem that Mr. Tipton presented, a very real problem, in every irrigated area, of salt balance. We have that question over on the coastal plain of southern California, for some future settlement, but we were also faced with the more immediate problem which we think we have solved by means of our Colorado River aqueduct—if this treaty does not take its water, I might add—but we were out of water balance. The salt balance is a problem that one worries about when you haven't anything else to do, but when you are out of water balance you have to worry this year, not next.

The Phoenix area is in the same difficulty. The whole basin's water balance is upset. Now, I do not think many people in the Phoenix area can worry this year about salt balance—not that it is not a real problem for some future settlement, but they have got to get imported water or there won't be any salt problem to worry about. The salt balance won't matter if the water problem is not solved.

Senator MILLIKIN. May I ask the further question, please. If you get that imported water, then is there not always a downstream portion of the land which does return water for the simple reason that unless you have return water in the end you destroy your land?

Mr. ELDER. That is bound to happen, and has happened in other irrigated areas, on a small scale. Historically we think we can see it in the Euphrates Valley and other places that thousands of years ago were advanced civilizations that were based on irrigation. In the case of the Phoenix area, returning to the exact figures introduced by Mr. Riter, 1,330,000 acre-feet was assumed or estimated to produce 330,000 acre-feet net return flow into the Colorado River. It was added that a loss of 110,000 acre-feet might occur in the river channel in getting this water down to the Colorado River, but that was after the Gila River was channelized. Until channelization occurred, 220,000 acre-feet was lost. Those figures would seem to indicate that supplemental beneficial consumptive use by means of imported Colorado River water for that Phoenix area of 890,000 acre-feet is now planned or anticipated by the Bureau of Reclamation. That probably will put the immediate water-balance ledger books back into balance, temporarily at least. It, as I recall from meetings of your Arizona "high-liner" friends, will not make every one in the Phoenix area very happy, because less than has been hoped for.

That is somewhat beside the point, but as to this salt balance on which the estimate of 330,000 acre-feet return flow is solely based, according to the available testimony. The figure for salinity, as I recall it, was 6,000 parts per million, for water assumed to leave the Phoenix area, of 330,000 plus 110,000, or 440,000 acre-feet. Now, if things happen a little differently from what the engineers have estimated, if the build-up is greater or more rapid, as it was, we must remember, on some wells mentioned here, 7,500 parts per million instead of 6,000; assuming for the moment that it gets as bad as 12,000 parts per million, instead of 6,000, to permit easy mental calculation, the water leaving the Phoenix area to maintain the salt balance is cut in half. It is only

220,000 acre-feet, then, instead of 440,000, and it has been testified that the loss without channelization would be that exact figure of 220,000 acre-feet. Then that slight change in arithmetic—nothing but mental arithmetic—will change the 330,000 acre-feet assumed return flow to exactly zero.

Now, that is mentioned merely to give you an idea of how large the assumptions, the speculative nature of this return flow is, and what slight changes can make an immense difference in the results of this treaty. That 330,000 acre-feet of imaginary return flow, if it disappears in that sleight-of-hand way, has to come out of Lake Mead storage annually in case the treaty is ratified in its present form.

Senator MILLIKIN. Does not the sleight-of-hand in part come out of this, that on the California side you are assuming for example that you are going to line your canals as the economics justifies it; on the Arizona side, you are not assuming that you are going to channelize?

Mr. ELDER. My next step was going to assume that Arizona would find water becoming valuable enough to line her canals, also.

Senator MILLIKIN. Yes.

Mr. ELDER. The difference is that the minute she lines her canals, the water is beneficially consumed in Arizona and is a proper charge under the compact, and is of benefit to Arizona, but is not a return flow. That represents, to me, the treaty interpretation's uncertainty as regards return flow.

Senator MILLIKIN. But if to the extent that Arizona consumes her water, must she not deliver a certain amount of the return flow to keep her land sweet?

Mr. ELDER. The salt balance, as I said, would be required purely on an arithmetical basis, and, I am quite sure, the statement will be attacked by Mr. Tipton, as he has a rebuttal opportunity which I will not have; but 220,000 acre-feet leaving Salt River Valley-Gila area, so far as this mere arithmetic goes—will maintain the salt balance. That means water carrying so many tons of salt per year out of the basin, and 10,000 to 12,000 parts per million flows down the channel of the Gila just as readily as if it is 6,000 parts per million.

Now, as to the channelization, that, of course, is a matter of assumption again, and a perfectly proper one, but in my opinion, having traveled over that Gila country, floods are just frequent enough to make any board of review that has got to sit on those plans and spend Government money for that channelization, make that board hesitate a long time. Because you may channelize today or this year, and a flood would leave you no signs of that channelization next year. The effort might be made to channelize. Maybe the loss would be cut down temporarily, and within 5 years the effects would be negligible, due to the floods from the side arroyos, also from the main stream. As recently as 1941, Roosevelt Dam did spill and change the channel of Gila River materially all the way down to the Colorado. That is something that is just bound to happen as long as desert cloudbursts occur, and we know they do occur and will continue to occur.

Senator DOWNEY. Mr. Elder, you have gone somewhat too fast for me. I happen to be a lawyer, and used to be an engineer, so I would like to have you go back over these figures, and I am sure some of the other committeemen have not followed them. Now, Mr. Tipton as-

sumed they were putting into the Phoenix area fresh water to the extent of 1,330,000.

Mr. ELDER. That was Mr. Riter's figure, introduced by the Bureau of Reclamation.

Senator DOWNEY. Mr. Riter?

Mr. ELDER. Yes, sir.

Senator DOWNEY. Now, how much did they count would be consumed of that water?

Mr. ELDER. Perhaps having to work backward on the figures, it would come to 890,000 acre-feet. That figure was not mentioned in their testimony, but it is left after the losses and return flow are accounted for.

Senator DOWNEY. That would leave how much?

Mr. ELDER. Four hundred and forty thousand acre-feet leaving the valley, and 330,000 assumed to reach the Colorado River.

Senator DOWNEY. Now, where did the 110,000 feet go to—that is, the differential between 440,000 and the 330,000, according to Mr. Tipton?

Mr. ELDER. According to Mr. Riter, that would be channel losses, evaporation, and seepage that would not be reusable in any way.

Senator DOWNEY. Channel losses between Welton and the Colorado River—something of that kind?

Mr. ELDER. No; far up.

Senator DOWNEY. By Gila Dam?

Mr. ELDER. Yes; below Gillespie Dam.

Senator DOWNEY. All right. Let me ask you this: If the Arizona users then instead of returning 330,000 acre-feet of water to the Colorado River with an average salt content of say 3,000 parts to the million, would only return one-half of that, then necessarily your salt content might by that very fact be doubled; would it not?

Mr. ELDER. That would be the way you would assume, to maintain the salt balance; yes.

Senator DOWNEY. Well, I mean, if you just had half the water in which to carry away that salt, and assumed the same amount of salt, your salt content would be doubled; would it not?

Mr. ELDER. That is right.

Senator DOWNEY. Also, if you were to assume a greater use of water in Arizona than Mr. Tipton assumed, you would also be leaching out a greater amount of salt out of that additional land that was being irrigated?

Mr. ELDER. That would certainly follow; yes.

Senator DOWNEY. So that your salt content would be more than doubled?

Mr. ELDER. Yes, sir.

Senator DOWNEY. Is that not right?

Mr. ELDER. That is true.

Senator DOWNEY. Now, Mr. Tipton traced this 330,000 acre-feet down to the river. Will you again just as simply and plainly as you can, tell us what you think will happen to that 330,000 acre-feet, why it will not go down?

Mr. ELDER. We have evidence introduced that some wells are already worse than the water at Gillespie Dam, which as far as I could tell from the testimony was assumed to be the average salt content of this 440,000 acre-feet leaving the central Arizona and starting on its

way toward the Colorado River. Then if that salt content were doubled, just for easy mental arithmetic—it may not be doubled; it may be increased 90 percent, maybe 110 percent, I do not know; but it might be doubled by conditions in the valley, by particular wells pumped, and so forth.

Senator McFARLAND. Mr. Elder, you distinguish then between these wells that are pumped. We cannot figure that water that is pumped in on this deal, can we?

Mr. ELDER. No. It is going to be contributing to the return flow though, probably.

Senator McFARLAND. Now, as I see it, we are utilizing what little water we have in Arizona, about 100 percent?

Mr. ELDER. I am sure of that; yes, sir.

Senator McFARLAND. So what we are really talking about is surface water? Now, some of the water that is under the ground will have a greater salt content than the surface water will. I mean, the return flow that is in the river, the return flow that is in the river at Gillespie Dam, according to Mr. Riter, was 6,000 parts per 1,000,000. Of course, that is a very high salt content?

Mr. ELDER. Yes, sir.

Senator McFARLAND. There is no reason to believe that any other water that might be reached would have a higher salt content, is there?

Mr. ELDER. That salt content has increased over the years. I am sure it was nothing like that in the previous years, when there were more floods allowed to run down.

Senator McFARLAND. Of course, the reuse has increased?

Mr. ELDER. And reuse is going to increase, I am sure, as you import water, there.

Senator McFARLAND. The surface water, as we tried to explain, there, was diverted I would say at least four times.

Mr. ELDER. That is right.

Senator McFARLAND. That is, you diverted, up at Granite Reef, and then the river becomes dry, and you divert it again, the Buckeye people divert all of the water out of the river, and then the Arlington people divert it again, and it gets down to Gillespie, and he diverts any that is left.

Mr. ELDER. That which is left is 6,000 parts per million, according to the testimony of Mr. Riter, and which I, from my recollection, know to be about right. That is an accurate, correct figure. But it is not a stable figure by any means, in that there have been changes in the past, and I am sure there will be changes in the future, whether they want them to happen or not.

Senator McFARLAND. Of course, they are using that water, and the chances are, under your theory, that water is going down the river, unless someone keeps it from them, and someone will take it out and put it on some land there. But assuming none of this water gets down—the Colorado River water that goes into central Arizona—you still have a pretty large return flow, according to the figure of Mr. Riter, have you not?

Mr. ELDER. That is right.

Senator McFARLAND. That water is not so bad in quality because it is only used once.

Mr. ELDER. That portion of the watershed calls for entirely different comments from your Phoenix area, which I was handling first. Then I was going to proceed down.

Senator McFARLAND. Pardon me for getting ahead of the water. I did not mean to get ahead of the water.

Mr. ELDER. Before we leave the Phoenix area, we get a little theoretical, in my opinion, and assume that this salt balance has to be perfectly accurately adjusted. That just does not happen on irrigation projects.

I am sure I agree with Mr. Tipton—possibly Mr. Riter said the same thing—that lands might be required to be abandoned in order to maintain profitable irrigation. Well, you now have around 750,000 acres irrigated in the entire Gila River Basin, as I recall it. Some figures are as low as 715,000 acres. You may with this imported water get up to a million acres. I doubt if you can go that high, because most of the water has got to be for supplemental irrigation to preserve your present investment.

But I have heard the figure mentioned—2,000,000 to 2,500,000 acres available for irrigation, if you could only get water in at reasonable cost. It is perfectly feasible, proper, and economical to shift this water around. It has been done before in irrigated areas, and the only reason we are hearing about salt balance here is that a little arithmetic produces a lot of return flow. If we shift that water around to higher lands, a little higher pump lift perhaps will make the water somewhat more expensive, but as you continue to use it and operate more intensively, that will not prohibit its use.

I say that some land can be abandoned in places; unfortunately, if you are forced to, but a particular farmer will make a living on the new land instead of starving to death on the abandoned place, and you have ample opportunity to do that, so that this salt balance may never be disturbed, and the return flow may never appear, even at Gillespie Dam, let alone at the Colorado River, because the only basis for this portion of the return flow, not the other items you mentioned, but this return flow, is the one question of salt balance.

Senator McFARLAND. Of course, this is the case I spent 3 months trying. I listened to this evidence on the salt. I might have arrived at the wrong conclusion, but I did find—and the Supreme Court of Arizona upheld me—that you can use water with rather high salt content. If you will use a sufficient quantity, you can approximate the same result as with water with less salt in it.

Mr. ELDER. That is true.

Senator McFARLAND. I say approximately, because I was never willing to concede that you could accomplish the same thing with water with higher salt content. But the higher the salt content, the greater the amount of water you have to have.

Mr. ELDER. Yes, sir.

Senator DOWNEY. Mr. Elder, that brings me to this point. Mr. Tipton assumed 1,330,000 acre-feet.

Mr. ELDER. For the purpose of the record, that was Mr. Riter, of the Bureau of Reclamation.

Senator DOWNEY. Mr. Riter, then, assumed the placing of 1,330,000 acre-feet of fresh water in the Phoenix area, and he assumed that there would be 440,000 acre-feet of that not consumed.

Mr. ELDER. That is correct.

Senator DOWNEY. That was the basis for his return flow. Mr. Riter did not assume at all that you might and probably would meet with periods of scarcity of water, in which, while you have been applying to a given parcel of land 1,330,000 acre-feet of water, you might only have in a given year 890,000 acre-feet of water, due to scarcity, to apply to that same land in crops.

Mr. ELDER. That is true.

Senator DOWNEY. I will ask you, If that condition prevailed, what would be your return flow?

Mr. ELDER. Return flow suffers disproportionately to the shortage of diversion water, because the crops tend to consume about the same amount of water, as much as they can get while the fields remain wet, and the evaporation losses continue while the field is wet, so the farmer has to be more careful of his waste at the lower end of the ditch. So there is perhaps half as much return flow if your diversion duty is cut down by about 10 percent. Diversions might frequently be cut 10 or 12 percent, and if a real serious shortage comes, as has happened—a 30-percent shortage in diversion duty can be survived—of course, that year there is no return flow, or only a small amount. It affects our present discussions very materially.

Senator DOWNEY. Then, as I understand your testimony, you have the possibility of lining the canals in the Phoenix area and cutting down seepage; you have the possibility of the pouring of some lands and their abandonment, and moving to new lands; and you have the possibility of there being a scarcity of water with the cutting down of return flow. All those things might happen.

Mr. ELDER. All those things will happen and this first item of 330,000 acre-feet disappears completely.

Senator DOWNEY. Likewise, any citizen of Arizona who is given this water just will not let go the amount of water Mr. Riter assumed they would?

Mr. ELDER. That is my considered judgment, having watched Arizona people look for water and find it, like gold, wherever it is.

Senator DOWNEY. How much do you think we people in the Southwest may safely rely upon, in figuring this treaty, as to the return flow from the Phoenix area?

Mr. ELDER. Well, considering these other items as preliminary to that answer, the Gila project, as I recall it, had an estimate of about 400,000 acre-feet return flow. You might remember that yourself, Senator McFarland. But it was in that neighborhood. Now, I think the unit amount was $2\frac{1}{2}$ acre-feet per acre. That was to be assumed as return flow, because the soil is very sandy and gravelly. That is correct—that classification of soil—but if the soil is that sandy, it is my opinion that the water will be expensive enough to justify lining the canals and ditches. If water goes to central Arizona, involving pump lifts up to 650 feet, which is not common for irrigated areas, as anyone from the West knows—if water is pumped to those limits, it becomes so costly you just cannot build your pumps big enough and economical enough to pump water merely to waste it and let it run down for somebody else to get the benefit of it. You plan for smaller pumps and put the money instead into lined canals and even lined ditches; and in California, on sandy areas, we pipe water to the base

of each tree and build a little levee around the foot of each tree to hold every drop of it.

I think when planning that project for immediate consideration they would have to revise that diversion duty figure and cut it down from 6 acre-feet per acre to perhaps a figure we formerly used for planning there of $4\frac{1}{2}$ acre-feet per acre. But that would involve the lining of ditches and much greater care on the part of farmers in preventing waste, but the immediate effect of those tactics would be to cut this return flow down in that case by possibly half or more.

Much the same applies to the Yuma project. That has been notorious for slopping water around, as we call it, out in the West, and as water gets scarcer in Arizona, even the Yuma people with an old water right won't be allowed to waste it the way they have. There again the return flow will gradually diminish. For this ultimate period, not the next decade or two but finally, all these projects will have to come down to an operation basis that will use water economically. It has been enforced in other States by the courts, and I think Arizona will find water valuable enough to get around to that when they have to.

Return flow has been based on assumptions that leave us fearful that the treaty enforcement will simply have to fall back on Lake Mead storage for deliveries. Answering Senator Downey's question directly, my considered judgment is that instead of 930,000 acre-feet that was listed as return flow, the quantity for this ultimate period, with all these steps taken for proper irrigation in the valley of the Gila River, the average—long-time average, let us say—would not exceed 250,000 acre-feet. But in critical periods of drought, that we know have happened in the past and are going to come again, with less water available for diversion, because Arizona sometimes offered to take half of this shortage if California will take the other half, there will be less water to put on the fields. The return flow simply cannot be the same toward the end of drought periods when water gets scarcer and scarcer. In such a case of a long drought, it would not exceed about 150,000 acre-feet. If this 930,000 acre-feet figure should be maintained and insisted on by the other witnesses, and accepted by anyone; that figure, which is the long-time average, cannot possibly prevail in the drought period. It simply does not work out that way. Those years are the ones we are going to suffer from in the future. Those are the years when we fear the application of the treaty. When Lake Mead is full there will be water for us and for Mexico, too. That period is not of real concern here. But if 930,000 acre-feet should be the average, as has been mentioned, 500,000 acre-feet would be about the maximum that could be claimed for the critical periods of drought. Then the State Department estimate of the treaty's burden on Lake Mead would inevitably be more than doubled, just when the storage would be at a minimum. My estimate, however, is from 150,000 to 250,000 acre-feet for the return flow reaching the international boundary.

There were two other items mentioned. Gila floods were to be stored, and also desilting water.

There is a reference, perhaps, that was previously referred to affecting those items in particular, and also the main return flow. I have here a volume that is a transcript of the proceedings of the Committee of Fourteen, held at Denver, Colo., November 17 and 18, 1939. I quote

from this volume because a report is included in it that I helped to prepare. A technical subcommittee of the Committee of Fourteen even 5 years ago was worrying about this same subject—return flow.

Previously, a year earlier, a report mentioned by Mr. Lowry, a previous State Department witness, the so-called Jacobs-Stevens report on surplus water in the Colorado River, or some such title, came to us finally from the State Department to the Committee of Fourteen for consideration, to see if we could accept it. The subcommittee, including an engineer from each State, prepared the report, working off and on over a period of a year. The report of this technical subcommittee, as I say, was dated November 16, 1939. It is signed by L. Clark Bishop, State engineer for Wyoming, present here, and, I believe, to be a later witness; C. F. DeArmand, of Nevada, now deceased; I signed it as the representative of California; T. H. Humphreys, State engineer for Utah, but now retired; T. M. M. Clure, State engineer yet for New Mexico, but who, as far as I can learn, is not appearing as a witness; Donald Scott, of Arizona, who is the engineer Mr. Carson, the attorney for Arizona, referred to as having advised him on return flow and as having accepted this 1,130,000 acre-foot figure, as far as I could learn from Mr. Carson's testimony. I have not talked to anybody else as to what Mr. Scott thinks, but his attorney says Scott advised him on it.

Finally signing it is R. J. Tipton, as chairman, representing the State of Colorado on that committee and who is now listed as a later witness at this hearing.

In 1939 this committee had pretty definite ideas of what they thought the return flow was or was not. They started off by quoting from the Jacobs-Stevens report. I heard Mr. Lowry state that report checked the present State Department assumptions on return flow very closely, varying one or two percent.

The Jacobs-Stevens report starts out:

The problem—

the return flow problem—

is not easy of solution, nor does it lend itself to simple, unqualified answers. There are, in fact, several answers, depending upon unavoidable, varying possibilities as to the final extent of feasible projects, and the limit of future water usage in the United States, in the light of Colorado River compact allocations; upon the water rights priority; upon the assumptions to the dependability of relatively short stream flow records as an index to future run-off; and upon the extent of necessary water releases at the Imperial Dam for silt control and how these releases may change in the future.

All those are variables that still, to a large extent, prevail. Some of them have been cleared up. We now know more about desilting water. Mr. Stevens called it 387,000 acre-feet; the present witnesses call it 100,000 acre-feet. But this committee report bears on that.

Senator McFARLAND. How much did they figure?

Mr. ELDER. One hundred thousand acre-feet; but the Jacobs-Stevens report, in my memory, said 387,000 acre-feet.

Senator McFARLAND. What do you as an engineer figure we could rely upon fairly safely in regard to this desilting water?

Mr. ELDER. If you will pardon me, I agree with this 1939 subcommittee report, and since it will be in better language, I will read from the report a paragraph down. I am heading right for that question.

Senator McFARLAND. I am sorry.

Mr. ELDER. The Jacobs-Stevens report continues:

It will, of course, be physically possible to recover a considerable portion of the minimum surplus of either schedule for use in the United States.

I should say that they had two schedules, depending on where the water was to go, just like we have to assume now it goes to different places for irrigation purposes.

But the desirability of, or the necessity for, that procedure is questionable—that is, reuse—

first, from economic considerations, and second, as a matter of expediency, as it would deprive Mexico of her only dependable source of supply in the ultimate period.

This committee of seven engineers that considered this report immediately challenged that word "expedient." That is a matter of policy that certainly this Senate committee will have before it, but a consulting engineer, advising the State Department as an engineer, told them that apparently 1,100,000 acre-feet or more would certainly be available at the border; and then as his final reason and argument, he said it would be available because it was not expedient to reuse the water in the United States.

So the committee whose names I read drew up certain conclusions respecting the Jacobs-Stevens report.

Conclusions—

and these are signed by these seven State engineers—

The report shows that there is opportunity in the United States to utilize all the water of the Colorado River and that the only water reaching Mexico in the absence of a treaty providing otherwise will be unused return flow, desilting water, regulation return below the Imperial Dam, and unregulated flood flows. This conclusion by the authors is concurred in by the committee.

I am sure all of them would still agree on that one conclusion.

The committee concludes that there will be no dependable supply for Mexico from desilting operations at the Imperial Dam. The water reaching Imperial Dam already is relatively free of silt.

This was 1939, mind you, and is even more certainly true now.

There is insufficient silt in the water properly to seal the All-American Canal. It is understood that the 16-mile reach of the canal which lies above the Yuma project is to be lined with a layer of clay.

That has been done.

The silt problem has changed rapidly to a sand problem, due to the gradual regrading of the river bed. In the opinion of the committee, the river bed will become so stabilized that the silt and sand problem will be nominal and the water required for desilting or sluicing purposes will reach the boundary so irregularly and in such varying amounts to make it largely unusable.

That was my opinion in 1939, and I still agree with it. Other witnesses, of course, will speak for themselves. I have some degree of wonderment why they changed their mind on that particular point.

The CHAIRMAN. Of course, this water when it gets into the river will be mixed with other water?

Mr. ELDER. If there is other water left, it will be.

The CHAIRMAN. Of course, I assumed there would be. It would not mix if there were not other water. So you could not segregate this particular water and say that when it gets to the river it is going to

have a certain content, because it will be affected by all the other water in the river from whatever source.

Mr. ELDER. That is right. But on this particular item of desilting water, we find the silt cleared up so promptly on the Colorado River that we now have a desanding problem and no longer a desilting problem. Even as early as 1939 that was true. Sand has become scoured out and moves along the river bed. That is still continuing. But for the ultimate period, 30, 40, or 50 years from now, or longer, my position is that the river bed will be stabilized to such an extent that the amount of water required to force that sand down to and below Imperial Dam will be met by occasional releases from Boulder Dam or by water that comes from flash floods. So there will be no demand of 100,000 acre-feet on Lake Mead; it will not be automatically available for meeting treaty requirements as assumed.

Senator McFARLAND. So you mark out desilting?

Mr. ELDER. It would be very irregular. It would not meet treaty requirements. The very nature of moving sands requires them to go down in surges, so unless very careful arrangements have been made, the canal would be full, because you could not deprive farmers of water long enough. So it does not seem practical to operate Mexican canals or the Imperial Dam, for that matter, in such a way as to make any of that infrequent desanding water available to meet treaty requirements.

Senator McFARLAND. How about your report on return flow?

Mr. ELDER. That is the next paragraph.

The CHAIRMAN. Before you get to return flow, how much water now goes to Mexico down the river?

Mr. ELDER. The average for the last 10 years was in the neighborhood of 7,000,000 acre-feet. That includes the diversions, as I recall it.

The CHAIRMAN. You were talking about 40 or 50 years from now. How long do you estimate it will be before the upper basin States and the lower basin States make full utilization of their 7,500,000 acre-feet per annum?

Mr. ELDER. Estimates vary greatly on that.

The CHAIRMAN. I am asking you about this.

Mr. ELDER. I have one I happened to prepare when working for the Bureau of Reclamation—that in 1980 the upper basin will be 80 percent developed, and that will cut us down to the minimum deliveries into Lake Mead during a critical drought period.

The CHAIRMAN. How about the lower basin?

Mr. ELDER. Much sooner than that; 1960 perhaps. We will be cutting it close by then. We will be pinched in the drought years.

The CHAIRMAN. You are now in the employ of whom?

Mr. ELDER. The Metropolitan Water District of southern California, operating the Colorado River aqueduct, which takes water to Los Angeles and 13 other cities nearby.

The CHAIRMAN. Were you ever in the employ of the Imperial Valley?

Mr. ELDER. No, sir.

The CHAIRMAN. You do not need to shake your head so emphatically.

Mr. ELDER. I do so for various reasons.

The CHAIRMAN. You are not mad at me?

Mr. ELDER. Not yet, sir.

The CHAIRMAN. Well, I assume by that that you anticipate there will be plenty of reason for my being mad at you and your being mad at me.

Mr. ELDER. I have been a spectator throughout the hearings, and I have seen some interchanges; but I do not expect to be within the near future.

The CHAIRMAN. Not before 1980?

Mr. ELDER. 1975.

The CHAIRMAN. All right.

Mr. ELDER. Another paragraph in the conclusions of the subcommittee of seven of the Committee of Fourteen says:

The major portion of the return flow assumed to reach Mexico under both schedules is assumed to originate on the Gila project. If the quality of this water is satisfactory for agricultural use, the committee concludes that a substantial part of it can be, and will be, used in the United States, in the absence of a treaty providing otherwise. * * * It is believed that means will be provided for the use of this water—

that is, water that was put on the Gila project, some upper units of the Gila project—

by gravity, thereby reducing the total amount of water pumped. This return also can be easily made usable by the All-American Canal by means of a pumping plant at Yuma with a lift of about 34 feet.

I am advised that it could be made use of even more easily in the Yuma, Ariz., canal by a lift of 20 feet. The aqueduct into the Phoenix area will have a pump lift of 1,040, and 100 miles downstream it would be necessary to pump the water only 20 feet. I just cannot agree that Arizona water users will not pump that water 20 feet or 200 or even 1,000 feet in order to get it.

The CHAIRMAN. What is it you are reading from?

Mr. ELDER. This is a report that is of interest here, as it was prepared by a technical committee for the Committee of Fourteen in 1939, when the Mexican question first became active.

The CHAIRMAN. It makes some reference there to a treaty?

Mr. ELDER. Yes. Even before a treaty was negotiated, we were asked to consider the factors involved, and the return flow was a major factor then just as it is now in determining whether a treaty would hurt us.

It should be noted that the authors recognize the use of this return flow in the United States as a possibility, stating, however, that such use might not be expedient, since it would deprive Mexico of her only dependable supply. The committee concludes that the authors went beyond the directed scope of their investigation when they arrived at this conclusion. The matter of expediency is one which rests with the States and the Federal Government, and one which should not have been considered in the report.

This was strictly an engineering report prepared by the consulting engineer for the State Department.

Under schedule B the authors assume—

Senator McFARLAND. How much was that figure assuming it was expedient?

Mr. ELDER. The evidence was mentioned by Mr. Lowry that it checked the 1,130,000 acre-feet very closely. I think he said 1,150,000 or 1,160,000 or thereabouts. I do not have it here.

Senator McFARLAND. Do you mean that these engineers here agreed that that figure was correct unless it was pumped into the canal, either the Yuma Canal or the All-American Canal?

Mr. ELDER. The engineers who agreed to that were consultants for the State Department in 1938, named Jacobs and Stevens. They prepared a report agreeing to that. A subcommittee of seven, of which I was a member—Mr. Tipton and Mr. Bishop, who are also witnesses here, were members of that subcommittee—differed in the respects I have been reading here.

Senator McFARLAND. I want to know, Mr. Elder, how much return flow you estimate there will be if it is not pumped into the All-American Canal.

Mr. ELDER. I have used the figure of 250,000 in average years, and hardly over 150,000 in drought periods, and I qualified that: If it is not pumped into the All-American Canal, it will be because the Arizonans get first chance to pump it into the Yuma Canal or to use it elsewhere.

Senator McFARLAND. You do not anticipate that these people in the Imperial Valley would take any reused water, do you?

Mr. ELDER. In the years that are coming to us in the Colorado River Basin, there will be shortages so severe that they will take water of any imaginable sort you can let them get their hands on.

Senator LUCAS. Are the figures you are presenting here the same as you found in 1939?

Mr. ELDER. The witness, Mr. Lowry, for the State Department quoted this Jacobs-Stevens report as giving a very close check.

Senator LUCAS. I am asking your opinion. Your opinion today coincides with your opinion of 1939 on the return flow?

Mr. ELDER. I think I can say "Yes" to that, but this committee did not prepare a substitute figure for the Jacobs-Stevens report. They qualified it and objected to it in various ways and then ended by asking the State Department not to base any treaty negotiations on that report, because of the various errors that were involved in it. That was filed with the State Department by the Committee of Fourteen, some of which members now support this.

In the 5-year period there has been a marked change of opinion, not only by expert witnesses, but by others.

Senator LUCAS. But your opinion remains the same, if I understand you correctly?

Mr. ELDER. Yes; although I cannot now state I had an exact mathematical quantitative figure then on the return flow. I had not done any of that special work in Arizona or elsewhere.

Senator LUCAS. Did the other engineers have that quantitative figure?

Mr. ELDER. They did not put it in this report I have before me, not that I have seen. It remained a mental judgment of some sort, if formulated by them.

Going on with the report of the Committee of Seven:

Under schedule B the authors assume a consumptive use of 7,500,000 acre-feet of water per year in the upper basin and 8,500,000 acre-feet of water in the lower basin, in accordance with the "primary" allocation of water by the Colorado River compact. The authors then assume that all water in excess of the 16,000,000 acre-feet involved in the primary allocation will be available for use of Mexico.

The committee believes this assumption to be erroneous in view of the Colorado River compact.

Then, they add:

Since there is no treaty at present providing for delivery of water to Mexico, it should not be assumed by anyone that the total water supply in excess of the primary allocation by the compact of 16,000,000 acre-feet would be available to Mexico.

With the information available at present and the uncertainties surrounding the problem, all of which were fully recognized by the authors, the committee concludes that it is not possible at this time to forecast the dependable supply of water that ultimately will be available to Mexico, in the absence of a treaty stipulating that amount.

That report was submitted to the Committee of Fourteen, as I say, in 1939, adopted unanimously by them, forwarded to Washington to both the Secretary of the Interior and the State Department, and while considering that question of whether to forward it or not and make it the policy of the entire Committee of Fourteen, one of the authors, Mr. Stevens, a prominent consulting engineer of Portland, Oreg., was called into the meeting. Replying to the chief criticism, that related to the word "expedient," he stated:

It was uncalled for on our part, and had I the power, I would tear the words out. It was outside of our scope, the disposition of those surpluses. I would like to have that taken out, but it is there.

He said further:

On the whole I am quite agreeable to the committee's report and I think they have done a splendid job and I thank the committee very much for the consideration of this report. It is a big subject with many answers, no one answer being sufficient. The whole thing is hinged on what may happen in the next 60 years.

The effect of Mr. Stevens' appearance before the Committee of Fourteen was practically a recantation or withdrawal of the report. In the face of that, the State Department within the last week has quoted that Jacobs-Stevens Report as a check on their present 1945 estimate of return flow. That report was not even defended by the author of the report in 1939. I do not know what his opinion of it would be today, but in 1939 he said that the criticisms of this committee of State engineers—seven of them from the seven basin States—were agreed to by him.

Senator DOWNEY. Mr. Elder, in view of your testimony, may I ask you this question: Speaking from the standpoint of Mexico, would you think that Mexico would think that her people had as good a treaty as she has under the present proposals if instead of the present stipulations she were given all the return flow at her hazard, whatever it might be, plus 500,000 acre-feet of water?

Mr. ELDER. I think it quite impossible that she would think any such thing; and no water supply engineer could properly so advise her.

Senator MILLIKIN. Mr. Elder, at the beginning of your talk you were telling us about the sale of the Metropolitan Water District Co. bonds to the R. F. C. and in Wall Street. What were the considerations, pro and con, in those negotiations as to the effect of a possible future treaty with Mexico?

Mr. ELDER. I recall no definite discussion of that.

Senator MILLIKIN. Do you mean that that was not discussed in the negotiations?

Mr. ELDER. Not specifically that I recall. It was considered with the chief emphasis, I should say, given to this phrase in the Boulder Canyon Act: The water so conserved to be exclusively for use in the United States. That is a paraphrase.

Senator MILLIKIN. I assume your contract with the Secretary of the Interior was presented?

Mr. ELDER. Certainly.

Senator MILLIKIN. That specifically refers to the compact?

Mr. ELDER. Yes.

Senator MILLIKIN. And the compact specifically refers to the fact that there might be a treaty, and provides for a division of water if there is a treaty. Could that possibly have escaped the attention of the attorneys for the R. F. C.?

Mr. ELDER. It certainly did not escape their attention. The contracts were dated 1930, and the negotiations for the financing of the project occurred in the summer of 1932. The effort to secure a treaty, by Mr. Elwood Mead, then Commissioner of Reclamation, and his treaty commission, occurred as recently, speaking as of the then date as 1929. It was fresh in everyone's mind. His offer to Mexico of 750,000 acre-feet at the Mexican boundary plus main canal losses (possibly adding 10 percent more), which was rejected, was then the current story. A treaty was generally considered impossible on any terms that the Senate of the United States would accept.

Senator MILLIKIN. In making representations to the R. F. C., was it represented that the rights of the district were to firm water?

Mr. ELDER. I would say "yes" to that, because my present opinion is that the right of the district is largely, if not entirely, to firm water.

Senator MILLIKIN. What is the basis of that opinion?

Mr. ELDER. Oh, all the documents come into it with their varied interpretations. Primarily the California Limitation Act has to be considered, of course. It has been presented by previous witnesses who have stated that California is limited to 4,400,000 acre-feet of the 3-A classification under the compact plus one-half of the excess or surplus of waters in excess of A and B under the compact. Of course, the California Limitation Act says, rather than that, one-half of the excess or surplus over and above that allocated by 3-A of the compact.

Senator MILLIKIN. So the risk of those who bought the bonds was that there might be a treaty with Mexico?

Mr. ELDER. I think that risk in 1932 was so negligible as never to enter the head of any of the negotiators as a serious consideration, in line with Senator Pittman's declaration, which has been written into the record here.

Senator MILLIKIN. Would you say that in light of the clear language of the compact which is incorporated in your contract?

Mr. ELDER. I would say the compact was well known to Senator Pittman.

Senator MILLIKIN. But Senator Pittman did not buy bonds.

Mr. ELDER. No, sir; but he was a wise man.

Senator MILLIKIN. You bet he was a wise man.

Mr. ELDER. The men who bought bonds read this statement and relied on his statement.

Senator MILLIKIN. What I am driving at, Mr. Elder, is that surely there must have been some weight given to the possibility of a treaty

and what a treaty might do in selling those bonds. Was that just brushed off entirely on the theory that because we did not make a treaty yesterday, we would never make one?

Mr. ELDER. It was brushed off on the theory, considered then to be a certainty, that we would never make a treaty with Mexico that gave too much water to Mexico.

Senator MILLIKIN. No one could tell how that treaty would be framed, and the compact itself set certain limits and then talked about surplus.

Mr. ELDER. In fact, the compact provides a safety play against the chance that many things might happen, in order that the compact would be preserved, and we would not, after a treaty was proposed or ratified, have to go about negotiating a new compact. We did not want that compact to fail or fall in any case, no matter what might happen.

Senator MILLIKIN. But the operation of the compact is governed by its terms, is it not?

Mr. ELDER. I hope so; yes, sir.

Senator MILLIKIN. The compact very definitely provides the method for taking care of the Mexican Treaty, if a treaty is made?

Mr. ELDER. Oh, precisely, sir.

Senator MILLIKIN. Now, you are objecting to the operation of the proposed treaty?

Mr. ELDER. Yes.

Senator MILLIKIN. Are you objecting to any treaty?

Mr. ELDER. No.

Senator MILLIKIN. You do not object to any treaty. You think it would be a good thing to have an excellent treaty?

Mr. ELDER. An excellent idea to have all good treaties we can get.

Senator MILLIKIN. It is solely a question of allocation?

Mr. ELDER. On the basis of my water supply engineering judgment, the question of allocation of water is predominant. There are various other questions on which I am not qualified to speak.

Senator MILLIKIN. But what I should like to have developed from you, Mr. Elder, is on what theory, in the light of warnings which were given by the compact, did you consider that your metropolitan district waters were firm and that they would never be touched by treaty?

Mr. ELDER. Out of the 16,000,000 acre-feet allocated to the upper and lower basins, we interpreted then, and still interpret, that the metropolitan district allocations within California, which happen to be numbered 4 and 5 on the sheet I believe you have before you, would fall within the firm allocation, or so nearly fall entirely within that, that it would be as good as firm water.

Senator MILLIKIN. Does your objection go to the possible diminution of firm allocation to California, or does it go to surplus waters, or to both?

Mr. ELDER. My objection goes to this: That there are various interpretations of all these documents. As a water supply engineer, trying to protect my project, I do not think that California will necessarily win every argument or every court case or every hearing. When we lose them, we do not have as much water as we hoped to get, and we do the best we can with what is left. There are so many varied interpretations that the net effect of these is to possibly reduce the total so

materially that if we lost all the arguments we would be in serious trouble.

Senator MILLIKIN. Of the 8,500,000 acre-feet which come to the lower basin, and of the allocation of that which comes to California, how much of that goes to your district?

Mr. ELDER. Senior priorities ahead of my district amount to 3,850,000 acre-feet out of the 4,400,000 acre-feet that are listed. So we have half of our capacity, our water right, in the 4,400,000.

Senator MILLIKIN. So the other half must be made good with surplus?

Mr. ELDER. We do not think so, by the interpretations that we hope will be relied on by the final courts of jurisdiction. We think that the California Limitation Act may be interpreted otherwise; but as an engineer, that is a matter of my taking competent advice from counsel.

Senator LUCAS. How does the California Limitation Act square with the statute dealing with the same thing?

Mr. ELDER. In this way, that the California Limitation Act, as I recall it, says that California gets 4,400,000 acre-feet plus half the excess or surplus of the water not allocated by 3 (a) of the compact.

Senator LUCAS. That is the Project Act?

Mr. ELDER. That is the Project Act.

Senator LUCAS. Public Law 642?

Mr. ELDER. Yes.

Senator LUCAS. The California Limitation Act squares with that, does it not?

Mr. ELDER. Certainly; but there are interpretations there that vary with the various States.

Senator LUCAS. Let me ask you one question in the light of what Senator Millikin asked you a moment ago. You said that at the time the contracts were made, the question of a treaty did not enter into the matter of continuation of the certain amount of firm water that you had then or have now. Let me ask you about the extraordinary droughts you have been talking about. How will they affect the firm water down in California?

Mr. ELDER. Well, I have been a student of droughts all my life, because I live in the Southwest. I have met some of them, but I have not lived long enough yet to meet an extraordinary drought.

Senator MCFARLAND. You ought to have been in Arizona in 1940.

Mr. ELDER. I always went to Arizona in 1940 with a return ticket, so that I could get a drink of water.

We have had a period of record, which, as we said, at best is 48 years long, and the early part of that is of less accurate degree than recent records.

A consulting engineer in Los Angeles, Mr. H. B. Lynch, working in my office 10 years ago, gave us an excellent report that extended with substantial accuracy our length of record and conception of droughts. He gave figures for annual rainfall practically back to 1769, the year of the first occupancy of California by the Spaniards, at San Diego. That was based primarily on mission-kept records. We found that the mission Fathers were very careful to record what crops they raised and what seed they planted, and that proportion gives an index of how much rainfall there was each year, although they did not bother to measure rainfall directly. We had hundreds

of dairies of the mission Fathers and the immigrants to that country. One diary showed 12 consecutive months in Los Angeles when no measured rainfall occurred. That was about 1840. We were able to work out a conclusion in that report that prior to the beginning of any Weather Bureau records, longer and more severe droughts had occurred than have been measured since. One in the southern California area occurred in the 1830's. Elsewhere conclusions substantially support that conclusion. The best evidence of all comes from Arizona, the yellow pine tree-ring records, which with help from beams in the old cliff dwellings, carry the record back to A. D. 200 or 300, or thereabouts.

Senator LUCAS. That is all very interesting history, and we have had a good deal of it. Droughts have occurred in the past, and they are going to occur in the future. It occurred to me when Senator Millikin was asking you about the question of the treaty in connection with the sale of bonds to ask you whether the question of extraordinary droughts was discussed with those who bought bonds.

So much stress has been put on the question of extraordinary drought and not being able to supply water to Mexico that I wondered whether that was stressed as strongly to those who bought bonds as it is being stressed here today, because after all if you have these extraordinary droughts, undoubtedly you are not going to continue with the amount of firm water you have at the present time.

Mr. ELDER. That is one of the special reasons why we are fearful of this treaty. But these tree rings do help in this extraordinary drought question, in that they show droughts of a 10-year period about every 30 or 40 years. They also show much more severe droughts have occurred about once a century. But really overwhelming droughts, perhaps they can be called extraordinary droughts, occurred no oftener than once in 300 years. Along in the sixteenth century, archeologists have described the abandonment of numerous cliff dwellings in Arizona as caused by this really major drought. There may have been other reasons in addition, but undoubtedly it was caused chiefly by lack of rainfall.

Senator LUCAS (presiding). How long will it take you to finish?

Mr. ELDER. Aside from questioning, only 5 or 10 minutes more, I believe, Senator.

Senator MURDOCK. I think you said you were educated at the University of Utah?

Mr. ELDER. Yes, sir; so far as am educated.

Senator MURDOCK. Mr. Riter, as I understand it—

Mr. ELDER. Logan.

Senator MURDOCK (continuing). Was educated at Utah State Agricultural College?

Mr. ELDER. A very excellent place.

Senator MURDOCK. He assumes the return flow to be 930,000 acre-feet. You estimate it to be 250,000.

Mr. ELDER. Both of us were talking about Arizona areas. That is a long way from those schools.

Senator MURDOCK. I wonder if it would be safe for a Utah lawyer, taking the evidence of two Utah engineers, to say that the return flow will be midway between those two figures.

Mr. ELDER. It will be between those figures; I doubt if it will be midway.

Senator MURDOCK. Mr. Riter probably would say it would be nearer to 930,000 acre-feet.

Mr. ELDER. I assume so.

Senator LUCAS. Can you find any engineers who will agree on that return flow in Arizona?

Mr. ELDER. Remember, it was an absurd question in some respects to ask an engineer, as to ultimate return flow 50 or 100 years from now. It is not really based on engineering; it is based more on economics—what reuse is possible or profitable. It would take an agricultural chemist to know about the salinity of the water. Many other scientific and legal questions are involved.

Senator MILLIKIN. The drought situation was discussed with the bondholders or bond purchasers?

Mr. ELDER. Indeed, yes.

Senator MILLIKIN. The treaty situation was discussed as it existed in 1932 and as provided in the compact?

Mr. ELDER. Oh, yes.

Senator MILLIKIN. And under the contracts, was the possibility discussed that under one theory you have mentioned, half your water is firm, half comes out of surplus?

Mr. ELDER. At great length.

Senator MILLIKIN. So the bondholders took notice of those other factors?

Mr. ELDER. They took cognizance of everything except the present draft of the present treaty.

Senator MILLIKIN. But they took notice of the fact that there might be a treaty, of the drought factors, and that part of your water is firm and part is surplus?

Mr. ELDER. I think they took notice that it was a good risk.

Senator MILLIKIN. That was their conclusion from all the facts before them?

Mr. ELDER. The Government passed on those bonds, insofar as the R. F. C. is a part of the Government, and it substantiated that finding.

Senator MILLIKIN. They took risks presented by the picture, and it has now developed that you made a pretty fair presentation of the risks?

Mr. ELDER. I think so.

Senator LUCAS (presiding). The committee will stand adjourned until 10:30 tomorrow morning, when we will meet again in this room.

(At 4:55 p. m., an adjournment was taken until Thursday, February 1, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

THURSDAY, FEBRUARY 1, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room in the Capitol, Senator Tom Connally, chairman, presiding.

Present: Senators Connally (chairman), Thomas of Utah, Lucas, Johnson of California, White, Austin, and Wiley.

Also present: Senators McFarland, Downey, Millikin, Murdock, and O'Mahoney.

Senator WILEY (presiding). Come to order, gentlemen.

I am going to make one suggestion, seeing that I do not often preside over these hearings, being a damned old Republican—and put that in the record. It seems to me we could advance very quickly if the witness said, "I am going to talk on these points," and outlined them as 1, 2, 3, and 4, whatever they are. Then his facts, as he develops them, will fit into that picture. Do you see what I am getting at? We are not all engineers, and most of us are not—I mean most of us on this committee are not—acquainted with the facts of the controversy or with the law pertaining to water rights in the far West. I am just trying to get the thing arranged so that anyone who wants to review this can do so and get the evidence.

Now, who is the first witness this morning?

Mr. HAPPEL. I believe I am, Mr. Chairman.

Senator WILEY. Proceed.

STATEMENT OF LEON HAPPEL, NATIONAL EXECUTIVE COMMITTEEMAN, AMERICAN LEGION, DEPARTMENT OF CALIFORNIA

Mr. HAPPEL. My name is Leon Happel. I am past State commander of the American Legion, Department of California, at the present time national executive committeeman of the American Legion from California, and chairman of the rehabilitation foundation fund committee. I am neither an engineer nor an attorney, so I shall perhaps save some time on questions along that line. I am only going to comment upon this treaty with reference to the effects and privileges that have been granted to veterans and their right of entry on public lands. I have prepared a very short statement, and I will try to go along with you, Senator, so that we will not get into a good many side issues on which I would not be qualified to testify.

I appear before this committee on behalf of some 500,000 veterans of World Wars I and II residing in the State of California.

Congress has pledged to veterans a 90-day entry preference on lands suitable for irrigation and reclamation, as set up in section 9 of the Boulder Canyon Project Act. The first paragraph of that act provides for the—

storage of water for reclamation of public lands and other beneficial uses, exclusively within the United States.

It is expressly stated in the Boulder Dam Act—

That all lands of the United States found by the Secretary of the Interior to be practicable of irrigation and reclamation by the irrigation works authorized herein shall be withdrawn from public entry.

That is quoted from section 9 of the Boulder Dam Act. If I am not mistaken, the Secretary of the Interior has withdrawn some 1,000,000 acres in complying with the provisions of this section. I enumerate them as follows:

Gila Valley project in Arizona, 585,000 acres.

East and West Mesas, Imperial Valley, Calif., some 300,000 acres, of which 200,000 acres are just about now ready to be opened.

Coachella Valley, 100,000 acres.

Part of Palo Verde, Valley, and Mesa, 100,000 acres.

Also, some 5,000 to 10,000 acres in the State of Nevada.

If we are to believe our engineers and the figures of the Reclamation Bureau of the United States—and these are perhaps the best available figures—there is insufficient water to care for both needs. It seems impossible to keep the commitment made by Congress for future development of this land and to supply Mexico with 1,500,000 acre-feet of water. It is true that the present needs may be sufficient in some projects, but in others such is not the case. I have in mind the Gila River project, where some 585,000 acres have been set aside and only 160,000 acres are to be developed, because of the proposed transfer of some of the water to central Arizona. I have sat here and listened to testimony given with reference to salinity content running, in some instances, as high as 12,000 parts per million. This certainly shows a shortage of water in some respects, and we hope our future veteran farmers will not be expected to make a living from water of that kind.

This treaty has been protested in the California State department of the American Legion on many occasions. I quote resolution No. 69, page 54, Summary of Proceedings, twenty-sixth annual convention, American Legion, Department of California, August 15-17, 1944:

Whereas the United States of America and the United States of Mexico have entered into a treaty for the utilization of waters of the Colorado River; and

Whereas the said treaty has now been referred to the Senate Foreign Relations Committee; and

Whereas the result will be repudiation of contracts with States and agencies of the United States with the Secretary of the Interior by authority granted to the Secretary of the Interior by the Congress of the United States of America and will result in condemning for eternity hundreds of thousands of acres of otherwise productive lands in the United States to a state of desert waste; and

Whereas the interests and property holdings of thousands of veterans and taxpayers now farming in the Imperial Valley and on other lands now irrigated by waters taken from the Colorado River and located in the State of California, and will also stop all further development of additional lands not now being irrigated but provision for the irrigation of which has been provided for by the Boulder Canyon Project Act, approved by the United States Congress, December 21, 1928, and which said act provides for preferential settlement rights by honorably discharged United States soldiers, sailors, and marines of both World

Wars No. 1 and No. 2, upon approximately 300,000 acres of public domain now made available for irrigation by the Boulder Canyon and All-American Canal project; and

Whereas, as veterans, taxpayers, and farmers of the entire United States will have to pay taxes to finish paying for the facilities now constructed and to be constructed to deliver this water without cost to Mexico, the results placing a double burden of costs on the American veterans, taxpayers, and farmers for the benefit of their competitive neighbor farmers in the United States of Mexico: Now, therefore, be it

Resolved, That the American Legion, Department of California, go on record as opposing said treaty and strongly urge that said treaty be rejected by the United States Senate and by the Committee on Foreign Relations of said Senate of the United States; that a copy be mailed to each Senator of the United States Senate; a copy to the President of the United States; a copy to the Secretary of State, Cordell Hull; a copy to each United States Congressman representing California in the United States House of Representatives.

That is the end of the resolution.

Senator WILEY. What was the date of it?

Mr. HAPPEL. August 15-17, 1944. Just the day that it was adopted, I do not know. It was one of those days.

The American Legion looks upon this problem from the long-range standpoint. No doubt large numbers of our veterans will file on these lands in the years to come. They have the right to expect water in abundance 50 years from now as well as today. The treaty is being written for all time so, naturally, we must have the same perspective in protecting our rights.

Definitely Congress knew what it was doing when the right of entry preference was given to veterans. It was sound judgment on the part of Congress to take off the market lands suitable for reclamation and irrigation. It was also sound judgment when there was written into the Boulder Dam Act—

provides for storage and for the delivery of stored waters and for reclamation of public lands and other benefits and uses exclusively within the United States.

The war veterans of this Nation are very grateful for the preference extended to them. Many wounded minds and bodies will be nursed back to health in the sunny climes of these projects. So I take the position in speaking for the veterans that we have a commitment—yes; a pledge—from Congress written into the law of the land back in 1928. I am here to protest the signing of this treaty because it will repudiate a right already granted. The act of 1928 does not provide for veterans of World War II. However, there is pending before the House at the present time a bill, H. R. 1695, to amend the Boulder Canyon Project Act to extend the privileges granted thereunder to World War II veterans. This bill was introduced by Mr. Peterson of Florida, and it will most likely have the unanimous approval of both Houses.

It most certainly was not the intention of Congress to give veterans preference on lands with no water to develop it. We had many failures in land settlement by veterans following the last war. Poor land and lack of water were two of the principal reasons.

The lands of the Colorado River Basin referred to in this treaty are excellent agricultural lands and will provide good homes and farms for our ex-servicemen, provided water is assured.

More than \$600,000 has been loaned in the Imperial Valley to California veterans for farms, and it has proved to be one of the best investments of the veterans' welfare board of that State.

In some respects this treaty, as I have heard the evidence here, or tried to hear it, reminds me of the Treaty of Versailles, where we asked for nothing and got nothing. Only in this case, it seems, we ask for nothing and give away a great deal.

It also reminds me of the two now famous naval treaties in which we participated with other naval powers of the world. While we proceeded to give the world "disarmament by example," which called for the sinking and junking of a good portion of our fleet, other nations were building at top speed to destroy us.

The State Department thinks so much of this treaty that it says—and I quote from a pamphlet of theirs:

Considered in the light of previous treaties relating to the use of water from international streams for various purposes, it is not improbable that the treaty of February 3, 1944, now awaiting action in the Senate, may come to be regarded as the most important of its kind in the history of the world, both in the range and scope of its provisions and in its social and economic significance. It is more than a mere division of water between two countries; it provides the administrative machinery and the principles for international cooperation in the development of these water resources. As such, it may well be taken as a model for future treaties governing international streams.

Of course, that places a burden on everybody to be sure that it is going to be in that category where it can be of benefit to this country, if it is going to be set up as a model.

I hope the committee will look to the future on this treaty lest we repeat the tragedy of our greatest naval defeat, and that by our own people.

It appears to me, gentlemen, that your committee in making its recommendation, and finally the Senate itself in accepting or rejecting the treaty, must consider the commitments of Congress to our veterans, on the one hand, and the Latin-America good-will policy, carried to the extreme, on the other.

The men who are now fighting for our Nation on all fronts of the world—yes; the very men who will occupy some of these lands—are looking to you, gentlemen, to protect their interests during their absence.

Senator WILEY. You apparently have the idea that even if you have a good working model mechanism, unless you have model gentlemen enforcing it you do not get model results, international or otherwise; is that it?

Mr. HAPPEL. I do not know that I just understand that, Senator.

Senator WILEY. I was perhaps a little facetious. After all, back of every treaty obligation or international mechanism, the main thing is the intent, the will, and the desire to carry through, rather than just the mechanism.

Mr. HAPPEL. Rather than the machinery to set it working?

Senator WILEY. Yes; surely. That is why the League of Nations filtered out. That is why we have war in spite of peace treaties.

Senator MILLIKIN. Mr. Chairman, may I ask a question, please?

Senator WILEY (presiding). Senator Millikin.

Senator MILLIKIN. Will the witness agree with me that if we put water on all the land that could take water, we would dry up the Colorado completely in this country?

Mr. HAPPEL. If we developed all the lands in the basin that could take water, we would dry up the river?

Senator MILLIKIN. Yes.

Mr. HAPPEL. Well, I stated that I am not an engineer, Senator; but I imagine it would just about take all the water.

Senator MILLIKIN. So carrying the doctrine of veterans' preference to its ultimate, that is exactly what we will come to?

Mr. HAPPEL. If we develop it all in this country?

Senator MILLIKIN. Yes.

Mr. HAPPEL. Well, maybe that would be a good thing.

Senator MILLIKIN. I am not arguing it; I am just trying to get what the purport of your theory is.

Mr. HAPPEL. Yes.

Senator MILLIKIN. Let me ask you: Does the Legion favor a treaty at all?

Mr. HAPPEL. Oh, I believe it does.

Senator MILLIKIN. Then let me ask you, how much reduction of the proposed allocation would the Legion recommend?

Mr. HAPPEL. Well, I believe our boys have taken this position, and I can best answer that for you in this way—that we must depend upon what figures we have available—engineering figures, and so forth—as to just what damage would be done to our preference of entry on those lands; how much land would be taken away by giving away more water than we are giving at the present time. We are here just simply to assert our position in the matter, our rights to the water as it is now.

Senator MILLIKIN. I am a Legion man myself, and I have the utmost sympathy for the veterans' preference provision; but I merely invite your attention to the fact that if you carry that to its ultimate you will dry up the Colorado River completely within the United States, and that, of course, poses in very sharp form an international problem.

Mr. HAPPEL. Well, the point I am trying to stress here, Senator—and I know that our boys in California have tried to stress—is that we want the best land we can get for them, and we want plenty of water on it if we are going to give them the land.

Senator MILLIKIN. So if there is to be a treaty, I assume you would adopt, in general, California's theory as to the amounts that should be delivered under it?

Mr. HAPPEL. That is right.

Senator MILLIKIN. Thank you very much.

Senator WILEY. Are there any further questions? Thank you, Mr. Happel.

Who is the next witness, please?

Mr. ELDER. I believe I am to continue.

Senator WILEY. Mr. Clay C. Elder will resume his statement.

STATEMENT OF CLAY C. ELDER—Resumed

Senator WILEY. To what point do you speak, Mr. Elder?

Mr. ELDER. I just want to clear up a few matters on return flow that were left hanging in the air last night when we adjourned.

Senator WILEY. Go ahead.

Mr. ELDER. Accepting the Colorado River run-off measurements as recorded—they were discussed in some detail yesterday—the proof is conclusive that prior to the construction of Boulder Dam the summer irrigation season flow of the Colorado River was seriously over-

appropriated. This is shown by numerous seasons of heavy crop loss in the past in the Imperial Valley, particularly the year 1934, just before the Boulder Dam storage became available.

If Boulder Dam had never been built—that is, in the absence of Lake Mead storage regulation—not even the annual quantity of 750,000 acre-feet could now be safely guaranteed to Mexico. For in about half of the last 30 years, severe to prohibitive invasion of long-established appropriation and vested natural flow water rights in the United States would have been required to fulfill such a guaranty.

Like most water questions, this treaty, I think, is really an argument about priorities rather than mere quantities of water. We were first given long-period average flows at this hearing. That was justified by the statement that Boulder Dam had equated the flow of the river and that, therefore, those long-range, long-period averages had full significance. The fact is that Boulder Dam does not more than begin to equate the flow of the Colorado River. Detailed studies show that nearly 60,000,000 acre-feet of active storage will be necessary to fully equate the Colorado River. Many additional dams and reservoirs will be built in the basin or are planned for the basin over the years, and ultimately, of course, the river will be approximately equated. But the 16,000,000 to 18,000,000 acre-feet capacity that is available at Boulder Dam for active regulation of the river, in addition to some bottom silt and dead storage plus considerable flood-control capacity on top of it to protect Yuma Valley in Arizona and the Imperial Valley in California and also in Mexico, is only about one-third enough to really smooth out these long-period averages. That is why we stress these shorter periods, as much as 10 years long within the record, and much longer in earlier periods, which really, with only Boulder Dam to rely on, dictate and control the amount of usable, available run-off.

Senator AUSTIN. Mr. Chairman, may I ask the witness a question?

Senator WILEY (presiding). Senator Austin.

Senator AUSTIN. Mr. Elder, are you familiar with the chart that has been used here and that is published in this black book, which appears to represent the smoothing or leveling effect of Boulder Dam on run-off of floodwaters?

Mr. ELDER. It is quite close to the end of the book, I believe, in the figures.

Senator AUSTIN. That chart there is a drawing or hydrograph of the Colorado River at Yuma, Ariz.

Mr. ELDER. Figure 4, I believe.

Senator AUSTIN. Figure 4. That is what I refer to.

Mr. ELDER. Senator, I am quite familiar with that. I used to plot such curves in the Bureau of Reclamation for the portions back here before the Boulder Dam was built.

The smoothed-out flow below Boulder Dam since it went into operation is very evident on this chart; the smoothing effect is exaggerated, however, by the fact that we entered a period of low flows during the construction of Boulder Dam and immediately following its construction. We have mentioned a 1930 to 1940 critical period as the lowest sustained run-off we have on record; therefore, the recent discharges have been less than the general average—the 48-year

average—would have given. The leveling down of the flow was emphasized previously, but another reason for that result is that we had, for the first time, from 1935 to 1941, to fill Boulder Canyon Reservoir. So, in spite of the fact that there were consecutive low years, water used downstream was not as yet very large in amount, and we were able to hold back water in Lake Mead even in low years.

Boulder Dam has a capacity of 32,000,000 acre-feet. The average flow of the river is about half that. So, in effect, 2 years' flow was extracted during this recent period to nearly fill the reservoir before it could begin to function. So the chart's decreased leveled-out flow has been the result of that combination of circumstances. But this does not indicate that Boulder Dam fully equates the flow of the Colorado River, as implied by previous witnesses.

Senator AUSTIN. On that basis, then, this graph is not an accurate representation of the situation?

Mr. ELDER. It represents exactly what happened at downstream points on the river; but in explanation of the graph it is not sufficient to say that Boulder Dam is equating the river, when we must bring in other factors and qualifications. On that point, since we have the graph before us, although we are saying the critical period is 1930 to 1940 or about 10 years, actually of the 4 years that have followed that period, two have been slightly above normal and two have been definitely below normal. We do not know what the next year or two are going to produce in the way of run-off on the river, but unless the run-off becomes definitely above average promptly, future computers of the Colorado River statistics will not talk of a 1930 to 1940, 10-year critical period; they may well have to talk of a 1930 to 1950 critical period. The reservoir contents are now considerably below 20,000,000 acre-feet. That is, the reservoir is only about half filled, and we may, for all we can tell, still be in the critical drought period. We just do not know what is immediately ahead of us. Of course, the demand is not such that there is any threat now to meeting the immediate needs for water with which to operate the present projects, but extending this chart into the near future, we may still be in the middle of a very long critical period, rather than at the far end of one only 10 years long.

Getting back to return flow, which was not completely covered yesterday because of a good many questions, I think that never was so much of damaging importance to so many made out of so little.

Senator WILEY. You have been reading Churchill.

Mr. ELDER. I am a devoted follower of every word he writes. In fact, one may say, not in Churchill's language, but in American slang, never was so much baloney made out of a little bull.

Senator WILEY. May I ask you a question? If this return flow is so problematical and there is so much difference in relation to it, should not some condition be dictated in relation to a treaty that would provide that you would not be prejudiced in relation to what the actual fact would be in the future?

Mr. ELDER. Every effort is being made to produce a satisfactory reservation that would cover that. I am sorry I have not the wording to cover such a thing this morning; but your statement sums up my whole presentation, that the estimates by anyone—by me, by Government witnesses, or by anyone else—of return flow are so speculative,

so premature, before the projects that are counted on to produce such return flow are even well planned, that to approve this treaty on the basis of those speculative guesses is just fantastic.

Senator WILEY. I think you developed that subject pretty well yesterday. I wonder if you are not overdeveloping it now.

Mr. ELDER. Possibly so, in an effort to make myself absolutely clear as to this conclusion, but there is one further point.

Senator McFARLAND. Before you go on, Mr. Elder, would you advocate waiting until they had full development and they knew what the return flow would be before an attempt was made to settle with Mexico?

Mr. ELDER. I think that is quite impossible, Senator, and would be unsatisfactory generally. But we do object to that word "guaranteed"—guaranteed return flow. That is quite impossible, especially in our desert Southwest.

Senator McFARLAND. What I am getting at is that you admit, then, that we have as much engineering data right now as we will have until it is fully developed?

Mr. ELDER. No, sir. After every season that passes we will have additional amounts, and the fact is that we can get a comparison of that condition as between the two sections of the treaty. As a water supply engineer I think I can understand practically every word, every phrase, of the Texas portion in part II of the treaty. There has been no opposition made evident here to it. I know that the men who conducted the lower Rio Grande investigation did it very thoroughly, taking many years to finish it. When the State Department witnesses are talking about the Texas portion of this treaty, they do not pass the buck to people representing a so-called Six State Committee or to the Bureau of Reclamation, or anybody else. They have the answers. They state in words we can understand what the United States will get out of this portion of the treaty.

In part III, the Colorado River portion of the treaty, in contrast, we find frequent ambiguities. We find that they do not know the answers themselves. In fact, when pressed at this hearing they explained that in December of 1944 a conference was held at El Paso on return-flow estimates. The treaty was signed February 3, 1944. Evidently that conference at El Paso was held merely to get defense material for this hearing, not to find a basis on which to predicate the treaty, for its date was much too late for that to be possible.

We think that this treaty is much too important to all of us to start making, a year after it is signed, merely a little office investigation and a few speculative estimates or guesses, just to see how best to defend it before this committee.

Senator McFARLAND. What I am getting at or talking about is engineering data. Of course, we would like to see this new water development in Arizona. Would you be in favor of helping us get that water over in there? Perhaps we can get Arizona developed quickly and get this thing settled. Would you be in favor of putting that water in Arizona, because just Arizona is involved? We need it very badly.

Mr. ELDER. I should say, sir, that personally I am in favor of your getting the necessary imported water by some feasible route, and quickly. But when people, even engineers, talk about a 140-mile

tunnel for you, I do not think that is a help, because that is just delaying it all and trying to fool you as well as all of the general public.

Senator McFARLAND. I am not taking about how we are going to get it; but you are in favor of putting water there?

Mr. ELDER. Absolutely.

Senator McFARLAND. Would you want to wait until we got it over there before entering into a treaty?

Mr. ELDER. Not necessarily, because I believe your development, even with imported water, will continue to be a matter of many years. Just getting projects settled, after their construction, takes a long time.

I think a period of 3 or 4 years, with the State Department investigating the Colorado River as it did the lower Rio Grande, would produce real results, results that could be depended upon to produce a satisfactory treaty, if it were negotiated then on the basis of ample actual facts.

Senator McFARLAND. You now have all the engineering data you will have 3 years from now?

Mr. ELDER. No, sir; we do not, by any means.

Senator McFARLAND. What could you get?

Mr. ELDER. One specific item that is much on our minds is the fact that large pumping possibilities, we know, are available across the line in Mexico, and an important resource of water supply is there that has not as yet been taken into account or brought into the treaty negotiations at all, as far as we can learn.

Senator McFARLAND. Of course, we have no way of getting that information.

Mr. ELDER. I myself have not, but the State Department, I am sure, does, and, in my opinion, should.

Senator McFARLAND. Do you have any idea how the flow of the river in regard to this matter could effect the amount of water that we would let down to Mexico?

Mr. ELDER. One possibility, probably even very likely, is that heavy pumping across the border in future years might actually affect the amount of return flow that will be evident on the surface in the river immediately above the boundary, for any pumping just below the boundary could lower the general ground-water level there, and less return flow would be measurable to be credited to the treaty. That is a little hard to explain with actual proof right now, but in your own Phoenix Valley pumping in many places is doing just that, reducing the surface return flow in the Salt and Gila Rivers. In any case, the pumping is an additional water source for Mexico that should be a part of the whole treaty picture, as its most beneficial and advantageous use is for firming-up the run-off in wet years by pumping chiefly during drought periods.

Senator McFARLAND. I presume what you mean by that is that there is a water level building up below which, as the water comes down, forces it out of the ground; and if that water level were not underneath the ground, it would go on down in the ground; is that the idea?

Mr. ELDER. The ground-water level maintains the return flow in the river; otherwise there could be no return flow in the sandy channel of the river.

Senator McFARLAND. Is there anything else you think ought to be done, other than exploring the Colorado River situation in Mexico.

Mr. ELDER. Most specifically, I think the studies that are by the treaty planned and directed to be made after the treaty is ratified—studies pertaining to this boundary diversion dam—are most important; of chief importance to Arizona, but really of importance to all of us.

The suggestion has been made that the building of that diversion dam at the present time is definitely premature. That is because the river channel is so unstable, that the river above Imperial Dam is already filled with sand. It seems certain that the same thing would happen above this proposed diversion dam. Many of us think that such a diversion dam should and could well be delayed to the advantage of both Mexico and the United States until the river channel is stabilized. That does not mean a delay in Mexico's or Arizona's developments. Ample facilities are available for large and adequate Colorado River diversions into Mexico, as proved by their use in 1944. Diversion facilities at the All-American Canal are available to carry on reasonable and proper but definitely limited irrigation in Mexico over a period of possibly 15 or 20 years, until the river channel does stabilize.

In addition, that period would afford an opportunity to fully regulate for flood-control purposes the lower Gila River to protect Yuma Valley and Imperial Valley against flash floods hitting their levees and the diversion dam. We think we have a proposal there for 2 or 3 years of investigations and surveys, such as were made in the lower Rio Grande, which would give us the basis for the proper treaty without unduly long delay.

Senator McFARLAND. Are there any other engineering data that you think ought to be obtained?

Mr. ELDER. I think much can be obtained to remove some of the speculation on this return flow question without waiting for the future projects to be fully developed.

We cannot wait until the ultimate period, of course, to actually measure it. But the guesses that have been given here are so wide apart that I am sure experienced engineers such as those who have been witnesses here can get a much closer result.

Mr. Riter, I believe, testified that he had never had the opportunity to see or study in the field, the central Arizona and Gila Basin area. His estimate could well be reviewed and checked by a few weeks or months of work there, and I believe he would have a better, more acceptable estimate as a result.

Senator McFARLAND. Did Mr. Riter say he had never seen the Arizona Basin?

Mr. ELDER. I do not know whether he made it that definite. I think he did say he was not familiar with the Arizona region or situation. could be wrong on that, but that is my memory. I know he works closely in his office, because he is such a busy man.

Senator McFARLAND. The reason I am asking these questions is want to find out whether they have any of the data you are talking about. What else would you suggest ought to be done?

Mr. ELDER. The immediate items that occur to me—I think some efforts could be made to lengthen out this record, such as I have mentioned. We do not say as accurately as current meter measurements at gage stations; but it is of such importance. Past droughts, much more severe than the one they are now using as the critical period, can be substantiated by data, much of which is available; and more could be acquired by proper studies. These would show what the dependable future flow of the Colorado River really can safely irrigate.

Senator MCFARLAND. Thank you very kindly.

Mr. ELDER. Now, one point I started to mention was that bypassing this so-called return flow through Arizona may pick up some salt, but we cannot pick up any additional water by it. There is just so much water in the Colorado River system. Arizona either will or will not be charged with it. I read the compact to say that Arizona will not be charged with any return flow that escapes from her boundaries. The compact is most specific on that point. We are sure Arizona would be human in that effort and seek to avoid unfair charges to its water account. So Boulder Dam and Lake Mead, above Boulder Dam, will have to stand the extra draft. Whether extra water is diverted through Arizona and so down to the boundary, to produce return flow, whatever its amount may be—you may want to assume a figure between some of the estimates given here, perhaps—or whether the identical water goes down the channel of the Colorado River to the Mexican boundary, as at present, the result on Lake Mead storage is the same. There is a heavier draft on the Colorado River headwaters or its hold-over storage than if the allocation under the treaty is corrected, as we think it should be. That fact just makes this return-flow story so much “hocus pocus.”

We say it does not matter what the exact amount is. If it is drawn from Lake Mead storage in any case, it is a charge on the Colorado River system. We cannot manufacture water out of thin air, like some witnesses have tried to do. We just cannot get away with that. If the treaty is based upon that sort of premise, it is just fallacious.

Senator DOWNEY. May I clarify my own mind by asking a few questions? We start from Lake Mead with only a certain amount of water?

Mr. ELDER. That is correct.

Senator DOWNEY. If it is not beneficially used in Arizona, or to whatever extent it is not beneficially used in Arizona, Arizona does not have the benefit of it and is not charged with it?

Mr. ELDER. That is correct.

Senator DOWNEY. Consequently, if there has been any implication from what the gentleman has said that because there is a return flow computation of 1,000,000 acre-feet, as it is thought there will be, that will not increase the amount of water to draw upon or help satisfy the claims of Arizona or the other Lower Basin States?

Mr. ELDER. Unfortunately, it is absolutely impossible.

Senator DOWNEY. In other words, you cannot eat your cake and have it at the same time?

Mr. ELDER. You could try to, but it is not a very good way to make a living.

Senator WILEY. If you eat your cake, who does have it?

Mr. ELDER. We object to Mexico having it or anyone else having it but the ones who have acquired it by investments.

Senator MILLIKIN. May I make an observation at this point? I believe the proponents will make plenty of argument to the effect that you could eliminate returns and that still the allocation of water is an equitable allocation.

Mr. ELDER. Boulder Dam is a great multiple-purpose project, the construction of which had far-reaching effects in the upper as well as in the lower basin. Without it and the compact coupled with it in ratification, the Grand Lake-Big Thompson transmountain diversion in the State of Colorado could not have been constructed, for by a transfer of exchange of water rights Boulder Dam stored water is substituted for the natural flow formerly reaching Yuma from high in the Rocky Mountains in the late summer.

Another incidental effect of the dam and its desilted discharges is the channel scouring at several points downstream, but particularly at the head of the Alamo canal, which serves Mexico and at the head of the Palo Verde canal. That scouring is a matter of several feet. The effect of it was gradual. By midsummer of 1943 the shortages that resulted in the flows in these canals were so acute that, through the State Department as I am informed, orders were issued to actually release additional stored water from Lake Mead, not to give necessary water to Mexico, but merely to raise the elevation of the water level of the Colorado River at these canal head gates to enable them to divert enough water into the canals.

As a result, a great amount of water, which should have been retained in Lake Mead for future storage, went into the Gulf wasted. Far more water went into the Gulf than actually went into the Mexican Canal. But mechanically they could not get it into the canal without a higher water level in the river. That was due to scouring produced by clear water from Lake Mead. That continued, and in 1944 a prospective water shortage, due solely to this cause, was so acute that through negotiations the All-American Canal was called upon to supply the deficiency, just as we say it can do for the next 15 or 20 years, to avoid the dilemma of having to wait for a treaty to allow this proposed boundary diversion dam to be built. The dam advantageously can be postponed by the use of those facilities just as was approved of in 1944.

That scouring effect seems to be progressive and continuing. It gives the United States a realistic argument there that has been ignored by the State Department, we feel. That is, Mexico is said to be able to do great things; that with millions of acre-feet diverted, hundreds of thousands or millions of acres can be put under irrigation. That is not true, because the river is scoured, and the water cannot get into the present canal without the treaty dam or the use of American facilities.

True, they can put pumps along the banks of the river and pump limited quantities of water, as is done on a small scale now, but the Colorado River is a wandering stream down in the delta. They will find sand getting in front of the pumps or the current undercutting them, just as in the past years, so that they will be out of operation for weeks and months at a time. Pumping more than the present limited quantities of water is just not feasible or economic, and there is no prospect of that being done on a larger scale.

To give Mexico this diversion dam, as the treaty does, just means the feared larger water quantities then, and not until then, become available. They can then put the millions of acres in, if they choose, through our own help. They cannot build that dam without our treaty permitting it and without it they simply cannot build up these greatly enlarged rights against us that have here been talked of so much.

Senator MILLIKIN. How does water get into the Alamo Canal at the present time, Mr. Elder?

Mr. ELDER. Today, with the flow down to, I should guess, below a thousand second-feet, it flows in by gravity. In midsummer, when they used 3,000 to 4,000 second-feet, they were helpless. They could not pump water into the Alamo Canal.

Senator MILLIKIN. Has the water gone into the Alamo Canal for a long period of time by gravity?

Mr. ELDER. Until possibly 1940, there was no scouring of the channel by this clear water, and it certainly flowed in by gravity then.

Senator MILLIKIN. Flow by gravity means simply making a cut in the river bank?

Mr. ELDER. It is not that simple. They did that in 1905 to 1906. In those 2 years they pretty nearly lost the whole Imperial Valley by the floods, and only the United States Government was able to stop such a total disaster. They must have gates and headworks for controlling the water.

Senator MILLIKIN. But the principle is by gravity?

Mr. ELDER. That is right.

Senator MILLIKIN. You make a controlled hole in the ground or hole in the embankment.

Mr. ELDER. Essentially that is right.

Mr. MILLIKIN. Mexico could do the same thing down a little lower, could she not?

Mr. ELDER. She would not get the river any higher by doing that. She might be able to divert next year 3,000 second-feet, the following year 2,500, the next year maybe only 2,000 second-feet; but as a result, her irrigated area would gradually dry up.

Senator MILLIKIN. To some extent, we are doing that in the Alamo Canal. Mexico may do the same thing lower down.

Mr. ELDER. No, our All-American Canal was being used in 1944 and must be used, because otherwise Mexico cannot irrigate 300,000 acres, but gradually will go down to perhaps half of that and ultimately less than that.

Senator MILLIKIN. I am speaking of mechanical possibilities. Mexico could make her own opening in the river and divert water lower down.

Mr. ELDER. Some water at present, but not enough to adequately irrigate her acreage.

Senator MILLIKIN. But to some extent, to whatever extent it may be, that could be done?

Mr. ELDER. Certainly.

Senator MILLIKIN. It would not be necessary to build a diversion dam?

Mr. ELDER. We think it not at all necessary or desirable to build a diversion dam; that is correct.

Just in closing, California asks for an honest, fair study and presentation of all the facts and a fair interpretation of all the acts, compact, contracts, and treaty terms involved, after a full, detailed investigation in advance of treaty negotiation and ratification, not afterward.

This has been enjoyed by Texas. Texas has had that consideration from the State Department and, as a result, seems fully satisfied with its share of the proposed treaty. The Colorado River Basin States should be, and California will be, satisfied with no less.

Senator MILLIKIN. For the upper basin to achieve the maximum use of the water that is allocated to it by the compact, there must necessarily be contemplated, must there not, a series of reservoirs in the upper basin?

Mr. ELDER. Definitely; yes, sir.

Senator MILLIKIN. Those will have to be built if we wish to achieve our maximum use, and they will have to be built if we wish to make our 10-year—what would you call it?—our 10-year allocation to the lower basin?

Mr. ELDER. True.

Senator MILLIKIN. Would those reservoirs in themselves have a tendency to smooth out your drought statistics?

Mr. ELDER. They will certainly smooth out the flow as they are built progressively, but perhaps the important point that has not been raised yet, is, Just who will build those additional reservoirs? We water users below Boulder Dam have built with Government help and are paying for Boulder Dam. We get a certain safe yield out of that reservoir. If part of that safe yield, which means ultimately part of the capacity of Boulder Dam, is dedicated by this treaty to Mexico, we will have to go upstream of necessity and build another reservoir at our own expense—not at Government expense, but at our own expense, this additional expense being piled on our capital charges.

Senator MILLIKIN. If we do not conserve our part of the 7,500,000 acre-feet by building reservoirs you will benefit lower down.

Mr. ELDER. That brings up another point I noted was raised and much discussed at the last meeting of the Committee of Fourteen in November 1944. Your State of Colorado had a variety of representatives there. One group with Bureau of Reclamation support, apparently, presented this plan of building a chain of canyon reservoirs to fully equate the Colorado River and give us in the lower basin the compact average of 7,500,000 acre-feet at Lee Ferry, but they explained that those reservoirs would be paid for largely, if not entirely, by the power to be produced at them but marketed on the east slope of Colorado. Other Colorado representatives from the Denver-Greeley area objected strenuously.

There are evidently being proposed two different plans by two different sources or groups of interests, so one or the other plan will have to fall by the wayside if their financing depends on the same limited power market. We fear it will be the canyon reservoirs on the west slope that will be neglected and not built as promptly as we might need them to be.

Senator MILLIKIN. I suggest that from the lower basin standpoint it does not matter how we do it. If we do it, then we have succeeded

in conserving our river waters and have succeeded in smoothing out drought cycles. If we do not do it, you get the benefit of that water.

Mr. ELDER. That is true; but where an investment of possibly half a billion dollars or more is involved, the possibility of its being done promptly is far less if power is not available to pay the bill than if it is.

Senator MILLIKIN. Of course, we have a greater interest in that.

Mr. ELDER. For greater; but we have interests in it, too.

Senator MILLIKIN. You have a concern in it, but you can not lose. If we succeed in building the reservoirs, we smooth out the drought cycle; if we do not, you get the water.

Mr. ELDER. We get the water if enough falls on your mountains; but when it does not fall, as future droughts will prevent it from doing, unless there is ample holdover storage in those reservoirs the compact allocation will not be delivered.

As a water supply engineer, I say that, plainly, the upper basin cannot make water out of thin air; and when there is no water stored in the upper basin reservoirs, the compact water may not be delivered at Lee Ferry.

Senator MILLIKIN. If we have a series of reservoirs, they will have a stabilizing tendency and will tend to smooth out to some degree, at least, your drought cycles.

Mr. ELDER. Very true; but the point I make, Senator, is that we may not be able to wait until you in Colorado furnish the appropriate amount of reservoir capacity and that we may have to go upstream and do it ourselves if Boulder Dam is dedicated by this treaty to the service of Mexican areas.

Senator MILLIKIN. I do not want to put you to any such inconvenience. I am merely making two points: That, if we regulate and conserve our water in the upper basin, we will mitigate your drought cycles. If we do not, you get the water. If you get the water, and we are unable to utilize it ourselves, I assume you will do those things necessary to put it to good use.

Mr. ELDER. We will try, but merely giving us water will not answer our problems. If the water comes all in 1 year, it might mean we would have to have additional reservoirs.

Senator MILLIKIN. That would simply transfer the need for regulating these waters from the upper basin to the lower basin. I assume that if we give you the water, you would be glad to do that.

Mr. ELDER. We would be glad to do it; but having done it once, we do not want to duplicate the job at our expense.

Senator MILLIKIN. We will take some of the water up above in time to use it; and if we do not, you will be the beneficiary.

Senator WILEY (presiding). Who will be the next witness?

Mr. FOWLER. I will, Mr. Chairman.

Senator WILEY. You may proceed.

STATEMENT OF FREDERICK HALL FOWLER, CONSULTING ENGINEER, SAN FRANCISCO, CALIF.

Mr. FOWLER. My name is Frederick Hall Fowler. I am a consulting engineer, San Francisco, Calif. I am serving the Department of Water and Power of the City of Los Angeles, and am one of a group of engineers working for California on this treaty matter.

Senator WILEY. What particular points in this controversy are you going to testify to?

Mr. FOWLER. On the development and conditions that led to the treaty of 1906 relating to the headwaters of the Rio Grande.

I believe it is customary to give a short outline of experience.

I was born in 1879 at Fort Custer, Mont., and passed my early youth, up to the age of 21, in travels throughout the West, various Army posts, in Montana, Washington, Oregon, California, and Arizona. I finished preparatory school at Denver, Colo.; went through Stanford University, California, where I graduated in 1905.

I mention these early travels merely for the reason that in their course I went with Government expeditions of one kind or another, on change of station or in the field, throughout much of the West. I have since retraversed the same route and find that my early impressions were vivid and accurate and gave me a basic understanding of conditions there.

After graduation from Stanford University I went to my first employment, construction of the Laguna Dam on the Colorado River, just above Yuma; and during the 6 or 8 months that I was there I made several trips, both on horseback and by river steamer down to inspect the break in the Colorado below the Mexican line which, for a time, diverted the entire flow of water into the Imperial or into the Salton Sea.

After that I was on surveys for maintaining the supply of water for the city of San Francisco. Later I was a teacher at Stanford University for a year, and spent a year of travel in Europe and Egypt. I then entered the United States Forest Service, where I was hydro-electric engineer and district engineer in the San Francisco district, embracing California and western Nevada. I was there for 12 years, and during the last 2 years I represented in an engineering way the Federal Power Commission in that district, the newly formed Federal Power Commission.

In 1922 I established an engineering office in San Francisco and have maintained that office ever since, specializing on river studies, flood-control studies, power development, and municipal water supply from stream sources.

During my term of service in the United States Forest Service I prepared reports on all the rivers in California flowing from the Sierra. I have done work on the headwaters of the Rio Grande; and after leaving the Forest Service I prepared reports on the power resources of the entire western part of the country, back as far east as the Rockies.

In the beginning of public works in 1933 I was appointed a member of the technical board of review for public works, and as such I came back on a consultation basis to Washington, and had certain other assignments outside of the regular duties, with the committee serving Fort Peck, Grand Coulee, the Bonneville project, and various projects in Nebraska.

Later on I came back to Washington for a limited period in 1936, as director of a national drainage basin study embracing the entire United States. I at various times served as a consulting engineer on flood-control projects for the city of Los Angeles or Los Angeles County, and for the Kansas Citys. I have made extended flood

studies throughout the tributaries of the Mississippi, with the exception of the Mississippi headwaters, and have analyzed some thousands of floods within those basins. I also served as drainage basin consultant for the entire Missouri Basin.

I have been director and president of the American Society of Civil Engineers and director and president of the Society of American Military Engineers.

My testimony is to be confined to the circumstances leading to the treaty of 1906 on the upper Rio Grande, and as a basis for this discussion I have certain quotations to make from a report which was submitted to the President December 23, 1937, by various Government departments and by State agencies cooperating. It is signed by Harold L. Ickes, Secretary of the Interior, as chairman, and by the Secretary of War, Secretary of Agriculture, Secretary of Commerce, Secretary of Labor, the Works Progress Administrator, and by the National Resources Planning Board, Messrs. Delano, Merriam, Denison, and Ruml. It is a report that was made at the request of the States of Colorado, New Mexico, and Texas, with the National Resources Committee serving as a channel for the organization and surveys and studies by appropriate Federal and State agencies.

In that report, on page 73, there is the following history of the conditions precedent to the signing of the treaty of 1906. I shall read part of that which appears on page 73 and will later amplify it by other comment.

Senator McFARLAND. May I ask you this question: Are you opposing the treaty on the ground that the Rio Grande provisions of it are bad?

Mr. FOWLER. No, sir. I am not opposing it on that ground. I am opposing it on other grounds, and I am introducing this testimony as to the treaty of 1906, which I consider a good and adequate solution of the problem and one that could well be applied to the Colorado River section of the treaty.

Senator WILEY. You mean that the terms of that treaty, if written into the present suggested treaty, would solve the problem?

Mr. FOWLER. I think that you would have to divorce the two treaties, the Rio Grande and the Colorado, and might reach a solution by executing two treaties at the same time.

California has raised an objection to the treaty in its present form, not only on account of giving too much water from the Colorado River to Mexico, but also on account of wide and unusual administrative powers that are conferred upon the Commissioner.

Senator McFARLAND. What I meant to ask you was, Do you object to the Rio Grande part of the treaty?

Mr. FOWLER. I am just coming to that, Senator. In the abstract it is a matter of administration. We have raised objection on two points. One is too wide administrative features, and the other is too much water out of the Colorado River.

So far as I personally am concerned I would be perfectly willing to waive the objection to the administrative features, so far as they affect the Rio Grande only, and let that be settled between the States affected on the Rio Grande and the United States Government, providing those administrative features are not dragged into our settlement on the Colorado.

Does that answer your question, Senator?

Senator McFARLAND. Partially. I think I had better let you go ahead. I just wondered if you thought the Rio Grande people were not getting enough water and you were opposing the treaty on that ground.

Mr. FOWLER. No. I am not talking of the present treaty. I am talking of the treaty of 1906 which settled problems on the river only down to Fort Quitman. You are taking up in this present treaty the problems from Fort Quitman down.

Now, reading from the report:

In the early 1890's water shortages began to occur along Rio Grande in the Mesilla and El Paso Valleys, and people near Juarez, across the river from El Paso, complained to the Mexican Government. The matter was taken up through diplomatic channels, and in a claim for damages of \$35,000,000 filed by Mexico against the United States it was alleged that the shortages were due to increasing diversions from the river by water users in Colorado and New Mexico. As a result, the International Boundary Commission was directed to make an investigation and report covering the whole upper Rio Grande situation.

Going on a bit in the text:

Mexico continued to press its claims and through the efforts of the Department of State, the Department of the Interior undertook an investigation of the river and a study looking to some means of providing water to satisfy the Mexican demands. The investigation revealed the feasibility of constructing Elephant Butte Reservoir for the storage and regulation of Rio Grande flow passing San Marcial. It was reported that reasonable demands for water upon the part of Mexico could be satisfied, and that, with inflow rights properly protected, the reservoir could also furnish water for an area in New Mexico and Texas estimated at 155,000 acres. This was designated as the Rio Grande project of the Reclamation Service, and the Leasburg unit was approved for construction by the Secretary of the Interior December 2, 1905. By an act of February 25, 1905, Congress authorized construction of the storage dam, and in March 1907, appropriated \$1,000,000 toward the construction as representing that part of the total cost involved in the provision of water for Mexico. A treaty between the United States and Mexico was signed May 21, 1906, and proclaimed by the President January 16, 1907. Under the terms of this treaty the United States guaranteed to Mexico, in return for relinquishment of all claims for damages, the annual delivery in perpetuity of 60,000 acre-feet of water in the bed of Rio Grande at the head of Acequia Madre, the Mexican canal opposite El Paso. The monthly distribution of this amount is specified in the treaty and there is a clause which provides that, "In case, however, of extraordinary drought or serious accident to the irrigation system in the United States, the amount delivered to the Mexican canal shall be diminished in the same proportion as the water delivered to lands under said irrigation system in the United States."

It is here stated that in the early 1890's water shortages began to occur along the Rio Grande. It really goes further back than that, for by 1888 conditions had become such that there was complaint on both sides of the line.

The Acequia Madre had been up and in operation for some 300 years, diverting from the natural flow; and the claims from Mexico were chiefly for the impairment of the water supply to that canal. In other words, the claims were on impairment of water supply that had occurred up to the end of the 1880's or the early 1890's.

The treaty was not consummated until May 21, 1906, some 26 years afterward, and compliance with the treaty was not made possibly until some time after it was signed, because it depended upon storage

out of Elephant Butte Reservoir, and Elephant Butte Reservoir was not completed until later.

I believe, sir, that that is all that I desire to present. It is preparation for the testimony of further witnesses.

Senator WILEY. Are there any questions?

Senator DOWNEY. Mr. Fowler, will some other witness show the extent to which Mexico had appropriated water out of the Rio Grande and what relationship it bore to the 60,000 acre-feet?

Mr. FOWLER. The situation was this: The capacity of the Acequia Madre was about 300 second-feet. The United States Geological Survey, taking the matter in hand for the United States, made a rough computation, with the basic principles of which I do not agree, that the capacity being 300 second-feet and the assumed length of the irrigation season being 100 days, there would be 30,000 second-feet days going through that canal for a full supply during the irrigation season of 100 days, and that would be equivalent to 60,000 acre-feet.

Senator DOWNEY. By whom did you say the computation and finding were made that you do not agree with?

Mr. FOWLER. By the United States Geological Survey. The reason that I do not agree with it is this, that in all probability the canal would not have had a full supply under natural conditions during the entire irrigation season. It would have been a fluctuating supply of somewhat less than 300. So that in consummating the treaty on that basis that gave them two breaks, as you might say. One was that we gave them the full supply that their canal would have carried during the irrigation season of 100 days and, having established the total quantity on that basis, we further improved conditions by regulating it according to a schedule that would approximately fit irrigating conditions through the use of the Elephant Butte Reservoir.

Senator DOWNEY. How old did you say this right was that was recognized in Mexico?

Mr. FOWLER. Approximately 300 years, up to the time that the difficulties and arguments occurred over the water supply; and that was in the latter part of the 1880's and early 1890's.

Senator DOWNEY. As a matter of fact, did not the argument there arise between the Mexican and United States water users, that the Mexican users were claiming that we were infringing their right of direct appropriation?

Mr. FOWLER. The argument was that we were interfering with the right which they had established by long use.

Senator DOWNEY. But by direct appropriation from the river?

Mr. FOWLER. I do not know that there was—

Senator DOWNEY. It was not from any reservoir, was it?

Mr. FOWLER. No. It was a long-established use, through actual use of the uncontrolled flow of the river.

Senator DOWNEY. It was not claimed to have been established out of any stored water, but by what we call direct appropriation. I use the two terms in contradistinction.

Mr. FOWLER. No. There was no storage used in connection with their right at that time.

This is a simplified history of the controversy that I have read to you here. Actually there were other ramifications.

In 1888 it was proposed that in view of the difficult conditions on both sides of the line an international reservoir be established at a point about 3 miles above El Paso. That was considered, and then there was another reservoir proposed with a dam at or near the present site. The two came into collision competitive for the same water right. Estimates were made by the United States Geological Survey and by the Reclamation Service, which was then in process of organization, in 1902 and 1903, and an analysis of the two projects appears in the third annual report of the Bureau of Reclamation.

Those projects, at least the one up at Engle, had been in the hands of private individuals, and there were various lawsuits which were carried through the Supreme Court. But that has no direct bearing on the controversy with Mexico or its solution by the treaty of 1906. I believe that that is well covered by the text that I have read, with the added statement that the controversy originated not in the early 1890's but in the late 1880's.

Senator MILLIKIN. Have you finished, Senator Downey?

Senator DOWNEY. Yes, I have, Senator.

Senator MILLIKIN. How much, Mr. Fowler, did Mexico contribute to Elephant Butte Dam?

Mr. FOWLER. Mexico contributed nothing to the Elephant Butte Dam. Under the terms of the reclamation law the Elephant Butte Dam would ordinarily have been constructed and repaid by the water users in the United States, within the Rio Grande project. In view of the fact that 60,000 acre-feet, or the capacity that would give a regulated supply of 60,000 acre-feet, would not have contributed anything to the well-being of the river project, Congress made an appropriation of \$1,000,000 which was made available to the Reclamation Service, and that was made out of the Treasury and the stock repayable by the water users of the Rio Grande project.

Senator MILLIKIN. May we not draw these conclusions from your testimony so far: First, that a controversy over water between Mexico and the States of the United States, such as prevailed at that time on the Rio Grande, is a subject of intense international interest and also domestic interest; second, that under the settlement that was made Mexico did not contribute to the cost of the regulating factor of the stream; third, that the user that Mexico had been making was considered a very important element in the settlement. May we not draw those conclusions from your testimony so far?

Mr. FOWLER. I think you can draw the first two conclusions. The third one will have to be modified somewhat.

What you term the user in Mexico was disturbed in the latter 1880's. The treaty was not signed until 1906, but was referred back to the use as it had stood in the end of the 1880's, on the interference that had occurred at that time. At the time that the treaty was submitted to Mexico, and Mexico at first demurred, asking that there be additional water up to 75,000 acre-feet provided, for the reason that only rough approximations of the canal had been made and they thought they should have more, and also called attention to other waters that there might be in the river of which they should have half, that would have amounted to a 25-percent addition, which was refused by the United States. Mexico acceded to that refusal and signed the treaty.

Senator MILLIKIN. May I make a personal observation, Mr. Chairman?

Senator WILEY. Certainly.

Senator MILLIKIN. As I sat here listening to the testimony, Mr. Fowler, I tried to span in my own mind the history through which you have lived and your own contribution to it. I thought of how we clutter up Washington with generals seated on hobbyhorses. I think the day will come, if we then have the money to spare, when we will build monuments to our scientists and to our great engineers—and if you will permit me I would like to include you in that category.

Mr. FOWLER. Mr. Millikin, I greatly appreciate those comments. However, you must remember this, that I was born and raised in the Army and still have a great loyalty to it. I think that you have here in Washington many Army men who do not ride hobby horses, and that you can be very thankful that they are here. Those who do ride hobby horses can easily be put in the field where they can have other means of locomotion.

Senator MILLIKIN. I do not complain of the generals, nor the horses that they ride, but I complain of the sculpture.

Senator WILEY (presiding). Are there any further questions? If not, gentlemen, we will recess until 2:30. We will go into a Senate session at 12 o'clock. Some of you might want to be present, as I assume the Senators will. I do not know whether the session will be over at 3:30, but we will reconvene here at that time, and I suggest that we hurry along in the testimony and make it as brief as possible.

(Thereupon, at 11:58 a. m., a recess was taken until 2:30 p. m. of the same day.)

AFTERNOON SESSION

The hearing was resumed at 2:30 p. m., on the expiration of the recess.

Senator WILEY (presiding). The committee will come to order.

Mr. SWING. The next witness, Mr. Chairman, is Arvin B. Shaw, Jr., assistant attorney general of California.

STATEMENT OF ARVIN B. SHAW, JR., ASSISTANT ATTORNEY GENERAL OF THE STATE OF CALIFORNIA, LOS ANGELES, CALIF.

Mr. SHAW. My qualifications, first: I am an attorney at law admitted to practice before the supreme court of California and the Supreme Court of the United States; a member of the American Bar Association, and of the State bar of California. I have practiced law in Los Angeles for 32 years and have for the last 26 years been attorney for Palo Verde irrigation district, which is the first green spot on the map up the river above Imperial Dam, Mr. Chairman.

Senator WILEY. I thought they were all green out there.

Mr. SHAW. I am speaking of the map, as well as of the country. For a hundred miles in every direction the country is everything but green.

Senator WILEY. What point are you speaking to?

Mr. SHAW. I expect to discuss before the committee evidence relating to the official acts and conduct of responsible officers of the United States with relation to international law and comity and treaties made

by the United States and other nations on the direct subject of the consumptive use of water for irrigation. That field is one of two fields which seems to be involved in the decision of the issue before the committee, the one being engineering or factual, and the other being legal; both being required to be considered in order that the committee may form its judgment as to the propriety of this treaty.

In addition to representing Palo Verde irrigation district for the last 26 years, I have been attorney for the last 12 years for Coachella Valley County water district, which is one of the partners or parties to the All-American Canal project.

(The chairman entered the hearing room and resumed the chair.)

Mr. SHAW. For something over 5 years I have acted as assistant attorney general of California detailed exclusively to serve the Colorado River Board of California, which is a public agency erected in 1937 to protect the interests of California in the Colorado River and prevent their shrinkage further.

Before attacking the subject matter which I have spoken of, I wish to mention two statements of the counsel for the International Boundary Commission which do not appear to be supportable. The first is his statement on page 246 of the typewritten transcript, which constitutes a definitive statement of the theory upon which the State Department has proceeded in formulating this treaty. It is a statement following a review of other treaties which have been made by countries interested in the use of water for irrigation, and from which counsel deduces this thesis:

The significance of that is this, that all the treaties of which I am aware—and I have selected all of them that I know about in the appendix of this statement here which the Senators have before them—started out with the protection of existing uses, not at some time in the past, but the uses that existed at the time the treaty was actually negotiated and signed. That was true in the case of the convention of 1906 with Mexico. That was the amount that was given to Mexico.

My first proposition is that the general statement is not true. My second is that the specific statement is not true.

The CHAIRMAN. Would you mind testifying yourself, instead of taking up somebody else's testimony? Let me say right here—and I am glad that Senator Johnson is present—that in the case of California witnesses we are confronted with a long list of witnesses yet to be heard. The California folks submitted a list and put down the time of each one, 1 hour, and so on. California has already consumed 4 days. This will be 4 days.

I indicated to you, Senator Johnson, you will recall, that we were willing to give you 3 days, and you said you thought 3 days would be enough. But we have not even started. I am going to say that in the morning we expect to have an executive meeting and try to secure the support of the committee to say to you that you get your witnesses together and thin them down to a stand, because we cannot spend all of this year on California witnesses.

Senator JOHNSON of California. Why not?

The CHAIRMAN. I know that is the wish of California, but there is somebody else to be considered. We have other duties.

Your name is Chandler, is it?

Mr. SHAW. My name is Shaw, Mr. Chairman.

Senator JOHNSON of California. Every witness is entitled to be heard in this proceeding. It is an extremely important proceeding which determines whether or not we are going, at the ipse dixit of the very excellent, new State Department that we have, to determine that Boulder Dam was of no consequence and serves no consequence, because Mexico does not wish it. It becomes, therefore, a matter of the right of this country to determine just exactly what it will do in the matter, and we have got to find out in this committee, I am sorry to say, whether or not the committee will play the game as I think it ought to be played, and thereupon determine the right of California to its own peculiar circumstances.

We created a dam called Boulder Dam, or Hoover Dam, or whatever it may be, and some 10 years ago we carried out the idea that was embraced in that dam. We think we have the right to determine what should be done with our own property, and it seems to me there can be no question as to that. But there are gentlemen here who disagree with me and who would take that particular dam and tear it down, if they had the power, and tear it down to the detriment of California, if they desired. Now we seek to prevent that. I do not say that the other side seeks to attempt that, but there is an apparent desire of certain people here to carry out what their orders are and to determine that Boulder Dam serves no useful purpose or can serve no useful purpose. So that we have got a very, very hard question to determine, and we think that to say that we shall call two witnesses or three witnesses or four witnesses is outrageous and it should not be tolerated by this committee.

I am rather talking in the air here, because the committee is present through its absence, and there are other committees that are being called upon for action in relation to other matters. But we insist that where there is an \$800,000,000 investment of all the cities of southern California and there is danger that they shall be taken by the scruff of the neck and thrown out into the ocean, it shows that we have a right to defend the position that we assume.

The CHAIRMAN. Thank you, Senator. But as far as the chairman is concerned, the statement that there are those present who would tear down Boulder Dam and throw it into the ocean is not true, because I voted for Boulder Dam while I was a member of the House.

Senator JOHNSON of California. Yes; and probably you would vote for it again.

The CHAIRMAN. I am voting to maintain it and keep it and get some benefit out of it.

Senator JOHNSON of California. That is the idea.

Senator DOWNEY. I am not, of course, a member of the committee, and I would only want to express some ideas here, with your consent, Mr. Chairman, and that of Senator Johnson, if I may.

First, Mr. Chairman, in fairness I would like to point this out, that somewhere around 60 or 70 percent of the time of the California witnesses has been consumed by comments and questions.

The CHAIRMAN. The Senator cannot be heard to complain of that, because he has done most of the questioning. I do not think there is any individual here who has exceeded the Senator's questioning. I do not say that in criticism. I have been liberal and let you go ahead; but I do not think you ought to be hurling that in the committee's face

and blaming the committee for letting time be taken up by questioning, when you have been pretty liberal with your questions.

Senator DOWNER. I have only tried to ask questions that I thought were necessary. We have all asked questions rather liberally.

I am just making this statement to try to be fair and helpful, Mr. Chairman. I realize, of course, that there is a serious difficulty here. All the Senators, including the chairman, are very busy, so busy that they cannot perform the imperative duties that they have to perform. So, with the consent of Senator Johnson and yourself, I want to make this suggestion. Suppose we proceed this afternoon and the California group have a session tonight and then report back to you.

The CHAIRMAN. That is exactly what I suggested. I was not going to insist on any action now, but tomorrow I expect to have a meeting of the committee. You have listed here eighteen witnesses. It is unthinkable that some of their testimony is not reiteration and duplication and repetition of what some other witness testifies.

Senator JOHNSON of California. Suppose it is?

The CHAIRMAN. Well, suppose it is. If you make out your case that is all right, from your standpoint, but not from the standpoint of the committee. There are other witnesses who want to be heard. We have had four witnesses from California, as I recall it, and we have given you, including today, 4 days. We cannot continue to do that and hope to get through by Christmas.

Senator JOHNSON of California. I do not recognize that at all.

The CHAIRMAN. I do. We started Monday morning, and this is Thursday. I said that including today we have already given you 4 days exclusively for California.

Senator JOHNSON of California. No. You have done a lot of other things.

The CHAIRMAN. We meet every morning at 10:30 and recess at 12:30, and meet again at 2:30 and adjourn at 4:30, and that is 4 hours a day.

I do not mean that witnesses cannot put into the record anything they want to put in, but I do say that they ought not to take up the time of the committee reciting and reciting and reciting. I think there ought to be a limit on their testimony.

You ask for 30 minutes. Here [indicating] is the list prepared by the California people. They ask a half hour for Mr. Shaw. Mr. Shaw has consumed that half hour in commenting upon what somebody else testified to, and has never gotten down to his own testimony. I want to be fair with you; I am trying to be fair.

Mr. SHAW. That being true, Mr. Chairman, you will recognize that I have read eight lines from the transcript, and that is all I have been permitted to do so far.

The CHAIRMAN. Let me tell you what will happen. Somebody will want to interrogate you, and we will never get through this job at all. I am trying to be fair to California, but I am trying to get some fairness from California, too.

Mr. Swing was here, and we were glad to hear him. He was on the stand over a day, as I recall it, when he asked for an hour originally—no; he wanted a half hour. He is listed here for a half hour, and he spoke over a day. It is all right. He is the main witness to present the California case, and I assume he presented it in every aspect and every phase. However, 12 other witnesses are coming along to just

O. K. what Mr. Swing has said and what Mr. Shaw is going to say. That I cannot agree to. I think they ought to put their statements in the record. There are very few Senators here, anyway. A lot of Senators are going to rely on the record to see what is in it. These witnesses can put their statements in the record and have them printed in the hearings.

Mr. SWING. My statement was on only one phase. I did not cover the subject. Each one of these witnesses has been assigned a specific division of the subject.

The CHAIRMAN. You will have to assign them a little more specifically and cut the time down. As far as I am concerned I am going to resist very bitterly this interminable time of hearing witnesses. You have 18 witnesses listed and we have heard 4.

Senator Downey has got a half hour assigned. Everybody knows that he will not be able to cover the subject in a half hour. He will expect to take a day, probably. And I do not say that critically. That is your job, Senator, and I do not blame you at all. I am trying to put before you the practical situation. You not only have 18 witnesses, but you have listed the American Farm Bureau Federation, the American Bar Association, the American Federation of Labor, the National Grange, and the Veterans of Foreign Wars.

I am going to call a meeting of the committee tomorrow and let the committee determine the matter. The committee did have a session in which they tentatively agreed to give California 2 days. We have already given them 4 days. I am willing to give them some more time. I am not trying to cut them off, but I am trying to get California to get together and pick out the witnesses she wants and assign to them their duties, and then we will hear them within a reasonable time. If they cannot put all their testimony in orally, let them have it printed in the record.

I am not assuming to do this myself. I want to let the committee do it, of course. I am not trying to take any power away from the committee.

Proceed, Mr. Shaw.

Mr. SHAW. Mr. Chairman, is there a 30-minute limit?

The CHAIRMAN. That is all you asked for, but I did not anticipate that you would ever stop at the end of 30 minutes. So, go ahead.

Mr. SHAW. Thank you, Mr. Chairman. Your courtesy is appreciated.

I have stated to the committee from the record the statement of the counsel for the Boundary Commission, embracing the sole principle upon which it is stated this treaty is based as matter of law; that is to say, that an examination of all treaties available on this particular subject, the time of use—

The CHAIRMAN. Right there: Did he not also refer to the matter of comity? He did not base it purely on a matter of law, did he?

Mr. SHAW. I understand that comity is the sole basis of his statement, and that is produced into a theory based on an examination of treaties.

The CHAIRMAN. You said, "as a matter of law." Go ahead; I will not interrupt you any more.

Mr. SHAW. Pardon me—that principle being that the existing users in the lower country must be protected, not at some time in the past,

but the uses that existed at the time the treaty was actually negotiated and signed; and as evidence he refers to the treaty of 1906 with Mexico.

The main statement is not, in my opinion, true, and the supporting statement is not, in my opinion, true.

The State Department has taken two actions in the past which counsel relates to his theory: One, the treaty of 1906 with Mexico, and the other this treaty. In neither case did the State Department of the United States act upon the protection of the existing uses at the time the treaty was signed. In the case of the 1906 treaty the uses which were protected in the lower country were the uses which existed some 20 or 30 years before the time the treaty was signed, and they had decreased, I think the record shows, to the extent of about one-half. The Juarez Valley was one-half depopulated, according to the Mexican representatives, at the time the treaty was made in 1906.

Senator MURDOCK. May I be advised who the witness is?

Mr. SHAW. My name is Arvin B. Shaw, Jr.

The CHAIRMAN. He is attorney for Palo Verde irrigation district, and he is assigned to discuss its contract with the United States and the effect of the treaty thereon. I suppose he will get to that after a while.

Mr. SHAW. I am not appearing here for that district; I am appearing as assistant attorney general of California. My assignment has been changed from the time that schedule was prepared.

The CHAIRMAN. I am going by what the California people handed me.

Mr. SHAW. I think we should offer you a reedited schedule.

The CHAIRMAN. You have changed, now, and you are appearing as the assistant attorney general of California?

Mr. SHAW. Yes, sir.

The CHAIRMAN. I had no doubt about what State it was. Go ahead.

Mr. SHAW. The treaty of 1906, as I have stated, was not based upon protection of existing uses in the Juarez Valley; it was based upon the uses which had existed some 20 or 30 years before the treaty was made. If the treaty has been made on the basis of existing uses it would have been for about one-half the amount of water which was actually allowed by the treaty.

So the illustration does not stand up. In the present treaty, gentleman, the State Department has not undertaken to protect existing uses at the time the treaty was signed.

Senator MILLIKIN. Before you come to your second point I would like to ask you a question. Is it not a fact that at the time of the ratification of the 1906 treaty Mexico was under a drought situation, and that passed, and the original use of water was again shortly thereafter resumed?

Mr. SHAW. I do not understand so from counsel's discussion. I understood it was from 1880 on to 1906, being depleted by junior users in Colorado and New Mexico.

Senator MILLIKIN. Who furnished the water to the Rio Grande?

Mr. SHAW. It all came from the United States, specifically from Colorado and New Mexico.

In the case of the present treaty the State Department has put on evidence which would tend to show that the existing uses at the

time the treaty was signed amounted in Mexico to 1,800,000 acre-feet per annum. The treaty actually allowed Mexico 1,500,000 as the guaranteed firm amount. Actually we think they will get more, but that is the limit which the State Department has put before you as representing what this treaty gives Mexico. The treaty, in other words, does not represent the existing uses at the time the treaty was made.

The CHAIRMAN. Are you complaining that we did not give her 1,800,000 acre-feet instead of 1,500,000?

Mr. SHAW. I am not complaining in the slightest degree. I am trying to point out to you that the treaty is not based upon the theory on which the State Department says it is based.

The CHAIRMAN. Do you think that that had no weight at all with the treaty-making nations? Do you think they ought to have granted 1,800,000 acre-feet or granted nothing?

Mr. SHAW. My statement is that the theory would have led to granting 1,800,000 acre-feet, if that is a true theory.

The CHAIRMAN. It may be a true theory, but yet in the application of it you may not get to the end of the theory. I want the record to show now that you are complaining that the State Department did not give Mexico 1,800,000 acre-feet instead of 1,500,000.

Mr. SHAW. No, sir.

The CHAIRMAN. What are you complaining about?

Mr. SHAW. That the State Department's theory does not hold water.

The CHAIRMAN. Water is all that is in this case.

Mr. SHAW. That is it. It does not hold water.

Senator WILEY. They are ahead of us 300,000 acre-feet?

Mr. SHAW. We short-changed them.

The CHAIRMAN. I do not care to sit here for 6 months and hear arguments like that. That is one of the reasons for my moving in the morning to put some limit on these witnesses.

Mr. SHAW. I next point out to you, Mr. Chairman and gentlemen, that counsel for the State Department finally comes to make the admission that his theory does not apply. His statement is on page 252 of the record [reading]:

I will grant you, Senator, that there is a somewhat unique situation on the Colorado in that Boulder Dam was constructed before these uses in Mexico had increased to their present point, but you will not find any precedent for that in the treaties at all—

Senator DOWNEY. No.

Mr. SHAW (continuing):

Mr. CLAYTON. Consequently you will have to make a new precedent. It is a physical situation. The flows have been regulated. I think every thinking person would concede that has facilitated, if it has not made possible, the building up of these uses in Mexico.

Again, Mr. Clayton says, on page 254:

So the best we can say is that we have no precedent for it, and it is a matter of first impression, and some new law or some new precedent will have to be established.

That, if you please, disposes of the theory which the State Department has presented to you and requires that some other theory be formulated and presented to you.

That theory I would like to present, and to do it I would like to present to you some of the evidence upon which our conception of international law and comity is now predicated.

The CHAIRMAN. You are not going to testify about the contract with the Palo Verde irrigation district at all?

Mr. SHAW. No, sir.

The CHAIRMAN. You have switched over to this other angle?

Mr. SHAW. I have been assigned to this discussion; yes, sir.

The CHAIRMAN. Who assigned you to that duty?

Mr. SHAW. Mr. Swing.

The CHAIRMAN. All right. Go ahead.

Mr. SHAW. In the first place, I must make some general observations as to the nature of international law and comity, not for the purpose of enlightening this committee, because I recognize that the committee is more experienced than I on the subject.

Senator WILEY. You are assuming a good deal, sir.

The CHAIRMAN. The Senator from Wisconsin is a new man on the committee. He has not had time to do that yet. The rest of us have been here for some time.

Mr. SHAW. I wish to present to you digested material which has been prepared on this specific subject, and I desire to make a preliminary observation to state my conception and my premises from which I argue.

I consider that international law as such, strictly considered, is a body of concepts which have come to have the force of rules accepted by civilized nations through customary practice and application, over a considerable time, in many instances not enforceable, of course, by any tribunal at present, but, nevertheless, having the binding force of practice.

The CHAIRMAN. Does not the World Court have some jurisdiction over international matters?

Mr. SHAW. I do not know what jurisdiction it has today.

The CHAIRMAN. You just stated that there was not any court that had any jurisdiction.

Mr. SHAW. That is my view of it.

The CHAIRMAN. All right.

Senator JOHNSON of California. Do you think they have any jurisdiction?

The CHAIRMAN. I think they have, or they would not be in existence. Senator JOHNSON of California. In existence?

The CHAIRMAN. I know the Senator's well-known views on that subject, and I do not care to argue with him.

Senator JOHNSON of California. You had better not.

Mr. SHAW. On the other hand, comity is a word which is used to express an idea of ethical or moral obligation of nations, so the writers say, which leads them to concede various things to each other. Some people have cynically said that comity is that which causes a nation to do what is for its self-interest to do. That is a little cynical. But when you add the word "enlightened" to the word "self-interest," perhaps you arrive somewhere near what comity really is. It is the thing which causes us to do what we think will leave us in a friendly position with our neighbors. Comity is a basis for treaties. It is not a basis of international law at all. International law is a matter of

right. Comity is a thing which leads us to do things with other nations for considerations. Treaties are the result of comity and treaties are generally the result of bargaining for various objectives.

I do not consider, if you please, that the existing treaties constitute a body of international law. True, they are laws; binding the particular nations which have signed them. But they do not in this present instance constitute such a body of practice among nations as to amount to international law.

I have authority for that proposition, Mr. Chairman.

The CHAIRMAN. You do not need any, as far as I am concerned. I agree to that.

Mr. SHAW. Just a word from the writer from whom counsel for the Boundary Commission quoted to you. That quotation which was read to you was one which rather slurred the Attorney General of the United States, by saying that he was acting as a cautious counsel, trying to protect the last bit of interest of his client. The same writer after discussing various subject matters dealing with the use of international waters—and this is Prof. Herbert A. Smith, of the University of London—says this:

As the problem of the economic use of rivers grows in practical importance it becomes more and more desirable that it should be governed by legal principles sufficiently definite to afford some practical guidance in the decision of particular cases, but the need for rules does not justify any writer in asserting that they actually exist until they have been enacted by the only legislative process which the law of nations in its present form will recognize.

I do not believe that the opinion of that writer was any more important—that is, his criticism of Judson Harmon's opinion—than the opinion of another law writer whom Elihu Root discussed in an official communication to the Mexican Government.

Incidentally, the sharp line between international law and comity is stated in the conclusion of Attorney General Harmon's opinion. That conclusion was not read to you by Mr. Swing the other day, although he referred to that keystone opinion which has been the basis of our diplomatic practice for nearly half a century. I wish to show you gentlemen that that opinion is still a correct reflection of the international law as practiced by the United States. I do not undertake to give you the international law of Sweden or South Africa or any other country but that which is established in the United States by the responsible officials of the United States Government. The conclusion of Mr. Harmon's opinion is as follows:

The case presented is a novel one.

This has reference to the claim for damages by the Mexican Government which led to the El Paso treaty of 1906. [Continuing.]

Whether the circumstances make it possible or proper to take any action from considerations of comity is a question which does not pertain to this department, but that question should be decided as one of policy only, because, in my opinion, the rules, principles, and precedents of international law impose no liability or obligation upon the United States.

That distinction between legal obligation and comity is of importance, gentlemen, because the only other consideration that I have heard advanced of real importance in this case is the argument most forcefully presented by Mr. Carson that there is a fear among some people of arbitration of this issue should a treaty not be made, and of an unfortunate result of arbitration.

Obviously, I think you will recognize at once that an international tribunal of any kind must decide an issue as between nations upon the basis of international law and not upon the basis of comity, because comity is the basis of contract law—that is, treaty law—not a basis of international law as such.

No nation can be compelled by arbitration to accept or to do things simply because a court thinks it ought to, as a matter of bargaining. No nation can be required to accept considerations for an agreement to do something by a decision of an arbitration tribunal. That is the foundation of our thinking on the basis of the power of an arbitration tribunal.

Senator WILEY. Of course, that goes to the question of whether or not arbitration will be brought into being; but once it is brought into being, then equities are considered, certainly.

Mr. SHAW. No, Senator. My conception is that rules of law bind arbitration courts and international courts, as they bind domestic courts. I have found no evidence to the contrary. In other words, an arbitration court cannot say that the United States should accept in exchange for this consideration what the arbitration court considers to be an equal consideration, because that involves the process of making a bargain, which a court does not do but which the parties must do for themselves.

Senator WILEY. I think it is a matter of strict law; you are right. But we have such things as the good-neighbor policy; we have such things as the "four freedoms," and *quid pro quo*, and all that. But certainly when you get into a matter of arbitration, once you submit to it, you certainly do consider the equities.

Mr. SHAW. I cannot see, if you please, Senator, that a court can consummate a horse trade—and that is what a treaty is.

Senator WILEY. You are talking now to the point that the Government advanced a fear that perhaps in the future, unless this treaty were negotiated, there might be facts or rights, in case of our going before an arbitration tribunal, that would militate against California's or the Government's right to this water. That is the point you are talking on, is it not?

Mr. SHAW. Yes, sir.

Senator WILEY. Your answer to that is that, strictly speaking or legalistically speaking, before an arbitration tribunal you do not consider equities?

Mr. SHAW. I consider that an arbitration court must act upon law and not upon bargaining.

Senator WILEY. I do not think you have answered the question. It is either "yes" or "no." Of course, it considers law, but facts make equities.

Mr. SHAW. Certainly.

Senator WILEY. And so you consider the facts and you would consider the law?

Mr. SHAW. Yes.

Senator MILLIKIN. Is it not conceivable, Mr. Shaw, that you might clear up by arbitration a subject where the field of law had not been defined at all?

Mr. SHAW. If so, I think the parties had better determine what law they are going to decide the issue upon, before they submit it.

Senator WILEY. That is a different question.

Senator MILLIKIN. That raises a question. You have arbitrations on instructions; you have arbitration on submitted questions; you have arbitrations without any instructions at all. The ordinary arbitration is where there is some obscurity in the law, where we must consider all the equities. Is not that true?

Mr. SHAW. Where the law is to be determined, of course. But I do not consider that the price to be paid for a thing is a subject for arbitration. That is where there is a mixture and confusion of considerations, as is possible in such a case as this. I do not consider that the building up of a horse trade is the subject of arbitration at all. I do not think the Senate would consent to such a thing happening. That is just a detail, though; that is one feature of the thing.

Senator MILLIKIN. Does it not follow that if you have a mixed question that involves certain principles of law, investing money, and other considerations which are not strictly legal, the board of arbitration must necessarily give weight to all of the pertinent factors, whether you call them legal, equitable, moral, or whatever you call them, unless you restrict your arbitration expressly?

Senator WILEY. You mean, by your arbitration agreement define the limits within which it is to operate.

Mr. SHAW. I hardly think the United States would submit a grave important question without some definition of the law or of the scope of the arbitration to which it is willing to submit the question. That is only the practical side of the thing, I appreciate.

The CHAIRMAN. Go ahead, Mr. Shaw.

Senator MURDOCK. It might be enlightening to have the witness tell us the kind of question that would be submitted to such arbitration.

Mr. SHAW. I can do it easier by saying what kind of a question would not be submitted.

Senator MURDOCK. It seems to me that when we eliminate horse trades I can hardly conceive of a question that you would put up to arbitration. I do not want to argue it, but I thought it might be enlightening if you would give us the type of question that should be submitted to arbitration.

Mr. SHAW. I can give you questions that have been submitted to arbitration, but I am afraid, Senator, that I cannot attempt to give an example as broadly as you ask.

Senator MURDOCK. If you cannot give us an example, I withdraw my suggestion.

Mr. SHAW. I will endeavor to show that the practice of the United States has been to observe as international law the opinion of Judson Harmon.

Mr. Swing has brought to your attention the case of Mexico protesting against Yuma diversions from the Colorado River in 1898, and that in 1903 or 1904 the Attorney General of the United States ruled against that protest upon that basis. That is from the reports of Assistant Attorneys General Burch and Caldwell.

Reverting to the Rio Grande controversy on May 1, 1905, Alva A. Adee, Acting Secretary of State, wrote to the Mexican Ambassador regarding the Mexican claim for damages, and said:

The Department is unable to find any ground in international law upon which such liability could be based. A careful examination of the law of nations on

the subject has failed to disclose any settled and recognized right created by the law of nations by which it could be held that the diversion of the waters of an international boundary stream for the purpose of irrigating lands on one side of the boundary and which would have the effect to deprive lands on the other side of the boundary of water for irrigation purposes would be a policy of any established principle of international law. Nevertheless, the Government of the United States is disposed to govern its action in the premises in accordance with the high principles of equity and with the friendly sentiments which should exist between good neighbors.

That statement was followed on December 19, 1905, by a letter written by Secretary Elihu Root to the Mexican Ambassador, referring to this same subject and saying:

It is not, however, intended—

Oh, pardon me. The Mexican Ambassador had written him, enclosing an opinion from two Mexican jurists which, in turn, was based upon an opinion in a textbook by H. R. Farnham on the law of water. The Secretary said:

Inasmuch as Mr. Farnham cited no decision, no text, in support of the doctrine of international law announced by him, and inasmuch as the Department has been unable to find any solid foundation for such opinion, a personal letter was written to Mr. Farnham inquiring upon what authority he had founded his statement or opinion, to which inquiry Mr. Farnham answered, in substance, that the expressions contained in the text were merely his personal opinion deduced from a comparison of treaties, books, writers, and decisions. It is, however, not intended to reopen any argument on legal questions involved, but it appears to be necessary to say thus much in reaffirmation of the Department's position taken in accordance with the advice of Attorney General Harmon of the nonliability of the United States Government for the claims for indemnity heretofore brought forward by Mexico on account of the aforesaid diversion of waters. That question, moreover, appears to have become academic, since both Governments have announced their purpose to deal with the question on principles of the highest equity and comity between neighboring states—

Referring then to a plan for a treaty.

Senator MILLIKIN. May I ask a question? Could that not be the subject of an arbitration?

Mr. SHAW. That damage claim?

Senator MILLIKIN. If the negotiation to which you refer rests upon "the highest principles of comity," could that not be the subject of arbitration as well as negotiation?

Mr. SHAW. I do not consider so. I consider that the arbitration would have to be a substantive claim for damage, which, as he stated, would have to be based on international law.

Senator MILLIKIN. Before you finish, lest you fall upon the same horn as the one which was there made, would you mind giving the authority that limits the arbitration to the application of facts to a definite, rigid principle of law involved?

Mr. SHAW. I will endeavor to supply the committee with that at a later time.

Following the correspondence just mentioned, the treaty of 1906 was made, and that treaty states specifically, in its preamble, as follows:

The United States of America and the United States of Mexico being desirous to provide for the equitable distribution of the waters of the R'io Grande for irrigation purposes and to remove all causes of controversy between them in respect thereto, and being moved by considerations of international comity, have resolved—

And so forth.

Article IV of that treaty states specifically:

The delivery of water as herein provided is not to be construed as a recognition by the United States of any claim on the part of Mexico to the said waters—

And so forth. And article V states:

The United States in entering into this treaty does not thereby concede expressly or by implication any legal basis for any claims heretofore asserted or which may be hereafter asserted by reason of any losses incurred by owners of land in Mexico—

And so forth. So I say that the treaty of 1906 was not a denial of the principle of the Harmon opinion but was intended strictly in conformity with it.

In 1910—this is historical, but is worth consideration as a matter of the international practice of this Government—in 1910 Louis C. Hill, an engineer, was appointed by the President as a commissioner to deal with Mexico on the division of the waters of the Colorado River. He was also at the same time appointed by an independent order as commissioner to treat with Mexico on the division of the Rio Grande. This letter, which appears at page 293 of the publication of the Colorado River Commission of California, entitled, "The Colorado River and Boulder Canyon Project Act," was placed in the Congressional Record by Senator Hayden during the Boulder Dam debates. It was addressed to Secretary Hughes and reads:

Having read in a recent Congressional Record Secretary Fall's and your letters on the Colorado River compact, it may be of interest to your Department to know what was informally agreed upon as fair to both countries by the Mexican Commissioner for the division of the waters of the Colorado and myself, then American Commissioner. The revolution in Mexico—

referring to the Madero revolution of 1911-13—

prevented any formal recommendation by the Commissioners to their respective governments. The tentative agreement was about as follows:

1. Mexico and the United States were to abrogate such parts of the treaty of Guadalupe Hidalgo as conflicted—

that being a reference to the navigation feature that has been mentioned.

2. The two nations to divide the low-water flow of the Colorado equally between them. Mexico's share of this would be less than 1,500 second-feet, and hence less than will irrigate the lands of Mexico now irrigated by Colorado River.

3. The United States to build reservoirs if it so desires to impound all the remaining water (floodwater) of Colorado River for the purpose among others of irrigating all the land which can be irrigated by Colorado River waters, either by gravity or by pumping.

4. That Mexico be permitted by paying her pro rata part of the cost of the reservoirs and their operation to have the use of such remaining water as cannot be utilized in the United States.

This was considered by the Mexican representative as a most fair and friendly proposal. It gave Mexico nothing that the United States could use, but at the same time, shared with Mexico its storage facilities on the upper river, facilities which do not exist in Mexico.

Very respectfully,

L. C. HILL.

That statement of that tentative arrangement was, I say, strictly in line with the Harmon opinion in reserving to the United States the flood waters. It was strictly in line with the rule of comity which was

followed in the 1906 treaty, in allowing Mexico reasonable use of the share of the natural flow which she had theretofore diverted prior to the construction of storage works within the United States.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

Was not the contract with reference to the Alamo Canal the early contract? What was the date of that?

Mr. SHAW. 1904, I believe.

Senator MILLIKIN. Was not that a recognition of a potential use of over 1,800,000?

Mr. SHAW. No, sir; I do not so consider it. It was no recognition by the United States of anything, because the United States was not a party to it. It was no recognition by the State of California of anything, because the State of California was not a party to it.

Senator MILLIKIN. Let us put it at its very minimum, then. It was a recognition by California interests, who had a very strong interest, that there was a potentiality of using that much water, at that time?

Mr. SHAW. No, sir; I do not so consider.

Senator MILLIKIN. What would be the significance of that provision in the contract, to your mind?

Mr. SHAW. Why, the provision of the concession granted by the Mexican Government to its creature, a Mexican corporation, was that Mexico insisted as a condition of allowing the transportation of water through Mexico that it have a certain price for it, namely, the use of half the water if it so chose.

Senator MILLIKIN. Does not the fact that they are using 1,800,000 now relate back to a possible use of the same amount then?

Mr. SHAW. No, sir; I do not consider that the laws of appropriation do extend across the borders of a foreign nation.

Senator MILLIKIN. I am not talking about the law. We now know that they can irrigate 1,800,000 acres.

Mr. SHAW. With the use of Boulder Dam and our irrigation facilities, Senator; but not without.

Senator MILLIKIN. And the canal contract recognized a practically similar possible diversion to Mexico?

Mr. SHAW. No, no, Senator.

Senator MILLIKIN. What was the point of putting that in the contract? Why not make it 500,000 or 400,000 or 750,000?

Mrs. SHAW. Let us look at the situation as of 1904, Senator. At that time there was little development in the Upper Basin in Colorado, Wyoming, Utah, and New Mexico. It had not proceeded to its present condition although it is based upon appropriations which under our law relate back to the initiation of those projects. It was not known on the Mexican border how much water was going to be available because we had only five years of record of the flow of the Colorado River. No one knew what the water resources of the Colorado were then. There was no possibility of judgment that there was water available for the irrigation of Mexico to the extent of 1,800,000 acre-feet.

Senator MILLIKIN. But we have had testimony that the canal did carry that much water?

Mr. SHAW. The canal did in certain years carry 1,800,000 acre-feet of water.

Senator MILLIKIN. Yes. That is the pragmatic answer to your theory.

Mr. SHAW. In certain years, Senator; in certain years it carried far less; in certain years, practically none.

The CHAIRMAN. Has there ever been a time when some water did not go down the Colorado into Mexico?

Mr. SHAW. Well, I give you the season 1934 when for 150 days, I am told by the engineers, that the river was dry below the intake, and that there was diverted no more than 200 second-feet for 150 days.

The CHAIRMAN. How long did that condition exist?

Mr. SHAW. One hundred and fifty days.

The CHAIRMAN. For half a year?

Mr. SHAW. Yes, sir.

The CHAIRMAN. Is that the only case you have in mind?

Mr. SHAW. No, sir. 1924 was a shortage year; 1926 was.

The CHAIRMAN. I did not ask you about a shortage year. You mean there was no water at all that went down the Colorado River to Mexico?

Mr. SHAW. In the bed of the river?

The CHAIRMAN. Well, in the river.

Mr. SHAW. I understand that has repeated itself many times. I have been so told by engineers.

The CHAIRMAN. You are not testifying?

Mr. SHAW. No, no; I am just trying to answer Senator Millikin's question.

The CHAIRMAN. Go ahead.

Mr. SHAW. In a report made by Delph Carpenter, who was practically the author of the Colorado River compact, the Colorado River commissioner from the State of Colorado on the commission, substantially the same matter is repeated that I have given you; that is, that the Harmon opinion is the law of the United States. That report was inserted in the Congressional Record in 1928 and was made in 1922.

Senator LUCAS. Do you contend that that affects this treaty, that the Harmon report affects this treaty?

Mr. SHAW. Oh, yes, Senator.

Senator LUCAS. How? Does it deny us the right here to make the treaty?

Mr. SHAW. The thought has been presented by the State Department that there is an obligation on the United States, an obligation to give Mexico the amount of water which she was using at the time the treaty was made, and it is projected forward in time, to your minds, that if no treaty is made now we will be in a worse position next year, and the year after, and the year after that, because Mexico theoretically will increase her use of water, and will if the treaty is made, 5 years from now be entitled as a matter of right to require so much more water.

Senator LUCAS. I understand; your position is that this has already been settled?

Mr. SHAW. That in our opinion has been settled; yes, sir.

Senator WILEY. The position is that there is no international law to that effect that would in any way entitle Mexico, even though she has had a rather continuous flow, to any enforceable legal right in the water below the border?

Mr. SHAW. Yes. I might make a comparison, here, Senator, between this treaty of 1906 and the Colorado River treaty which you have before you. In 1906 the United States was faced with a situation like this—the Mexican Juarez Valley had been irrigating for 300 years with the water of the Rio Grande. It had developed a civilization which was stable and permanent, and it was almost destroyed by the acts of junior diverters up in Colorado and New Mexico.

Here, we have a situation where for a generation there has been a use in Mexico approaching, we will say, 600,000 acre-feet on the average. Now comes the United States and builds a storage dam in its own territory with its own money and energy and with its own engineering genius. It builds those works, and immediately comes the lower nation, Mexico, which says, "Admit me to a part of the results of your energy and expenditure. Give us something which you have created."

They have by virtue of gravity received from Boulder Dam since it was filled a fairly constant flow of water, which has been testified to, and they have taken advantage of that in a very hasty fashion, building up those uses to a point where witnesses have come before you to say that they are now using, 1943–44, approximately 1,800,000 feet. The witnesses were asked by one of the Senators to produce the figures for the last 5 years. Those figures have not been produced before you, and I submit that those figures will show markedly smaller amounts in the years 1942, 1941, and 1940, and that if we project those years back to 1932 you will find that in that year Mexico used approximately 230,000 acre-feet of water out of that river; so that we have a civilization which has not been stabilized upon the basis of a use conceded by the United States to Mexico, but a civilization which has been very hastily rushed into being, seeking to take advantage, as we see it, of the resource built up and in effect created by the United States.

If I may proceed, in 1922 Secretary Hughes——

Senator LUCAS. Mr. Chairman, may I ask this witness a question?

The CHAIRMAN. Yes.

Senator LUCAS. How many more witnesses are to be heard in this hearing?

The CHAIRMAN. You were not here, Senator?

Senator LUCAS. I am sorry.

The CHAIRMAN. I do not know. California had 18 witnesses listed, with 5 supplementary witnesses—Farm Bureau Federation, Bar Association, and so on—and so far we have used, excluding this gentleman, only 4 for California out of the 18. I suggested when we first convened, and Senator Downey and Senator Johnson had it under consideration, that in the morning I expected to ask the committee to take the position that we would limit these witnesses and either let them present a part of their statements and the rest in the record, or cut down the number, because at this rate we will be a month on California alone.

Senator O'MAHONEY. Mr. Chairman, may I interrupt at this point? Two or three days ago I advised the Chair that the State engineer of Wyoming is in the city for these hearings and that under the alphabetical rule which was laid down here he would not appear until some months hence.

The CHAIRMAN. September.

Senator WILEY. I will give him Wisconsin's right if that will help.

Senator O'MAHONEY. It would be of no use at all.

Senator WILEY. All right.

Senator O'MAHONEY. Mr. Chairman, the Wyoming Legislature is in session and it is really imperative that Mr. Bishop should be present. He has reservations leaving Washington tomorrow evening, I am advised, and I would appreciate it a great courtesy on the part of the committee, and I am sure Mr. Bishop would so estimate it, too, if the committee could see fit to hear him.

The CHAIRMAN. How long will it take, have you any idea?

Senator O'MAHONEY. Mr. Bishop will not be on the stand, I would say, more than 15 minutes.

The CHAIRMAN. Oh, well.

Senator WILEY. Be careful!

Senator O'MAHONEY. Except for questions.

The CHAIRMAN. I think we can work that out tomorrow, if it is an emergency case and the Senator requests it.

Senator O'MAHONEY. You will be here tomorrow, Mr. Bishop?

Mr. BISHOP. I will—you bet!

Senator O'MAHONEY. Thank you very much, Mr. Chairman.

The CHAIRMAN. All right; go ahead, Mr. Shaw.

Mr. SHAW. On August 17, 1922, Secretary Hughes directed a letter to Herbert Hoover, Secretary of Commerce, on the position of the Colorado River Commission in respect of the formation of the proposed Colorado River compact, and in that opinion or letter refers to and quotes from Attorney General Harmon's opinion, winding up this way:

The foregoing appears to constitute a reply to your request, but there are certain other considerations connected with the matter which it would seem should be brought to the attention of the Commission. I am not advised as to the nature of the compact which the Commission is to consider negotiating for an apportionment of the waters of the river among the several States mentioned, but if it shall be proposed so to apportion the waters as to cut off the present supply of water in the river as it enters the Republic of Mexico I may say that it would seem to me that considerations of equity and comity would require that the interests of Mexico in the matter should be taken fully into consideration.

pointing out that Attorney General Harmon himself had referred to the policy-making branch of the Government the desirability as a matter of comity of considering the historic uses of Mexico on the Rio Grande in consideration of the possible treaty.

In 1923 Mr. Hoover furnished the answers to questions which Senator Hayden propounded to him, which have already been read into the record and which I do not propose to repeat. He also, in the report which he furnished to the Congress on the Colorado River compact—he being the chairman of the compact commission, the Federal representative delegated by the President to act on that commission—referred again to the Harmon opinion as the controlling law on the subject.

I want to refer just as an incident to the memorial adopted by the State Legislature of Arizona in 1925, in which the legislature requested that the State Department furnish notice to Mexico that she shall not be entitled to the water created by Boulder Dam. That was again predicated upon the same notion of comity and of law as the previous actions I have submitted here.

There was placed in the record heretofore, I believe by Senator McCarran, the resolution adopted by the Governors of the seven Colorado River Basin States, in 1927, and I shall not repeat that material. I shall not repeat Senator Pittman's speech on the floor of the Senate, in which he very emphatically, as you will recall, brought the same principle to the attention of Congress.

The CHAIRMAN. Has not that already been placed in the record?

Mr. SHAW. Yes, sir. I shall not read that except for one statement, if I may be permitted.

I think it is the recognized policy of Congress—certainly it is recognized in the very opening paragraph of this bill—that the comity between nations does not call upon the United States to furnish to Mexico any water that is accumulated in the United States through expenditures made by the United States.

The CHAIRMAN. Very well.

Mr. SHAW. That was followed, if you please, in the Mead report on the 1929 treaty negotiation with Mexico. The report, signed by Commissioner Mead, by Major General Beach, and Mr. Anderson, of Texas, relied expressly upon the Harmon opinion as the law of the United States and very emphatically stated that the allowance of 750,000 acre-feet was as far as comity required the United States to go, and was, in the view of the American section, just and generous to Mexico. Following that, we have further expressions.

Senator WILEY. Do you have a reference to the volume and page of that?

Mr. SHAW. Oh, yes. The volume is House Document 359, Seventy-first Congress, second session. I cannot put my finger on the page, Senator, but I will give you that in a moment.

In 1938—this is new material which has not been brought to the committee's attention heretofore—there was held in the city of Phoenix, Ariz., a meeting attended by the representatives of seven States in the Colorado River Basin. I attract your attention to a resolution adopted by that meeting, at which there were delegates representing all seven States, appointed or designated by their governors and by the water users of many, many communities. I refer to the comment made by one Senator, that when you get a group of water users all together, you cannot expect them to agree unanimously upon anything. They did agree unanimously upon this.

This resolution was presented to the meeting by Mr. Clifford H. Stone, chairman of a resolutions committee. I believe Mr. Stone is to follow me as a witness.

Whereas the Boulder Canyon Project Act was by its terms adopted "for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters thereof for reclamation of public lands, and other beneficial uses, exclusively within the United States: Therefore be it

Resolved, That the Governors of the seven Colorado River Basin States recommend to the appropriate officers of the Federal Government that they request such officers to give notice to the Government of the Republic of Mexico that in harmony with the policy so declared in the Boulder Canyon Project Act it is the policy and purpose of the Government of the United States of America to reserve for use within the boundaries of the United States of America all waters of the Colorado River which may be stored or impounded therein, to the end that the Government of the United States of Mexico, the citizens of that Republic, and the owners of Mexican lands may have direct and timely notice and warning that the use by them of any such waters as may temporarily flow into Mexico shall establish no right, legal or moral, to the continued use of such waters.

Many of the men in this room were present at that meeting and joined unanimously in that resolution; and I propose to show further and consistent action by those men.

I think you recognize, Senators, that the resolution is what has been presented to you here as "good California doctrine." It was good doctrine for all of the seven States then.

Senator MILLIKIN. Mr. Chairman, who was to give the notice?

The CHAIRMAN. The Secretary of State.

Mr. SHAW. The appropriate officers of the United States.

Senator MILLIKIN. Did they give it?

Mr. SHAW. I do not believe they did. In May 1941, 3 years later, the subject became attracted to the attention of the Committee of Fourteen, which was a semiofficial group of representatives of the seven States of the Colorado River Basin, organized at this meeting at Phoenix in June 1938 primarily, if you please, to consider and discuss this Mexican question. That was the main theme of that Phoenix meeting; but, carrying on, the committee held successive conferences for the purpose of discussing a number of questions, and finally in May 1941 were advised by the State Department that it was considering negotiating a treaty with Mexico. It requested the views of the committee on the subject of the desirability of that. The committee appointed a subcommittee of seven, one from each State, to proceed to Washington to discuss the matter with the Department of State, and that subcommittee here at Washington adopted a resolution which was unanimous and which was thereafter unanimously confirmed by the Committee of Fourteen. The men present at that meeting, again, include many of the men present in this room.

The resolution which was adopted and presented to the State Department included these points:

If it appears desirable to the State Department to include the Colorado River in conversations between the State Department and Mexico, the seven States consent upon the following considerations.

And I do not believe that the representation made to you by the State Department that the seven States have in a way fostered and been behind this treaty from the beginning is quite a fair one. They merely consented to some kind of negotiation.

Paragraph 1:

There is no legal right in the Republic of Mexico to use any water of the Colorado River, hence any allocation to Mexico is purely a matter of comity. This statement is in accord with the opinion of Attorney General Judson Harmon, 21 Opinions Attorney General 274, and the opinion of Acting Secretary of State, A. A. Adee, in letter dated May 1, 1905, to Federico Gamboa.

2. Congress has expressly declared in the Boulder Canyon Project Act that the construction of Boulder Dam is for "beneficial uses exclusively within the United States." The United States should not, by a treaty with Mexico, impair its ability to meet its obligations incurred under statutory direction for utilization of Colorado River water either through Boulder Dam or through any other project development.

3. All the water of the Colorado River can be put to beneficial use within the United States. Any allocation made to Mexico subtracts from the development of the United States. Communities in the United States have initiated rights for the use of all of the water, and projects to utilize it are either constructed or actually under construction, or preliminary investigations and studies for construction are being made and forwarded with all diligence possible under the circumstances.

4. The seven States are firmly opposed to the negotiation of any treaty which grants Mexico water made usable by expenditures and developments by the

United States at Boulder Dam and through dams on the Colorado River, or which grants Mexico more water than she in fact utilized for irrigation and domestic use on Mexican lands before storage of water commenced at the Boulder Dam in 1935. In this respect the seven States agree with the principles stated by the report of the American Section, International Water Commission, United States and Mexico (H. Doc. 359, 71st Cong., 2d sess.).

The CHAIRMAN. Do you regard that as a commitment to the view that Mexico is entitled to all the water that she has used?

Mr. SHAW. It means water used by Mexico before water storage in Boulder Dam commenced in 1935.

The CHAIRMAN. That answers it. Do you regard that as a commitment to that theory?

Mr. SHAW. I can only express the view that we do not object to the continuing use by Mexico of such amount of water as she used prior to the closure of Boulder Dam.

The CHAIRMAN. You base your whole argument on the idea that she had no claim whatever to any water?

Mr. SHAW. Speaking, in the first place, of international law, and her right under international law, Mexico has no right. Under comity, she has the expectation that we will not destroy her existing use before we created water by the building of Boulder Dam.

Senator MILLIKIN. What you have read here are purely self-serving expressions; they were never transmitted to Mexico and never became part of our policy?

Mr. SHAW. That is a resolution given by the Committee of Fourteen to the Department of State in 1941.

Senator MILLIKIN. It is not to be assumed that we on our side of the river would be making proclamations that would give Mexico any exaggerated notions of the water which she might get from us?

Mr. SHAW. This was a communication from the seven States to the Department of State; it was not a representation to Mexico.

Senator MILLIKIN. It was never transmitted to Mexico?

Mr. SHAW. No.

Senator MILLIKIN. To put it bluntly, we were just talking to ourselves; and to the extent that our talking to ourselves got across the border, it did not keep Mexico from continuing and expanding her use of the Colorado River?

Mr. SHAW. As long as the State Department wished water to go to Mexico, it continued to go, and it is still continuing.

The CHAIRMAN. As long as the State Department wished it to go? Did not the water go there of its own volition? Has not 9,000,000 acre-feet of that water gone down to Mexico every year? What has the State Department got to do with it?

Mr. SHAW. I understand that as an engineering matter it can be controlled.

The CHAIRMAN. I am not talking about what can be controlled. I am not talking about what can be done. You say this water will continue to go down the river if the State Department wants it to go down. I suppose the State Department could say, "Stop!" and Mexico's water would be gone?

Mr. SHAW. I think that is correct.

The CHAIRMAN. You think the State Department could say "Stop!" when 9,000,000 acre-feet are going down?

Mr. SHAW. I think the water can be forced down as the State Department wishes it to go, day or night, summer or winter.

The CHAIRMAN. You think it could be stopped just as the State Department wished?

Mr. SHAW. Yes.

The CHAIRMAN. How?

Mr. SHAW. By closing the gates at Boulder Dam.

The CHAIRMAN. What would you do when Boulder Dam got full?

Mr. SHAW. Release water when you chose.

The CHAIRMAN. Does not California right now, in order to get electricity, have to get water from Boulder Dam?

Mr. SHAW. That is a matter of choice.

The CHAIRMAN. I do not care whether it is a matter of choice or not. You are here to tell us what you know and maybe what you do not know—but what you know, at least. Do you not know that you have to let water out when you generate power?

Mr. SHAW. If we chose to generate power we would have to let water out.

The CHAIRMAN. You are doing the choosing, and California is getting the revenue out of it. The Imperial Valley is getting the revenue out of the generation of power; is not that true?

Mr. SHAW. I understand so.

The CHAIRMAN. Do you not know it?

Mr. SHAW. I understand so.

The CHAIRMAN. All right. Go ahead.

Mr. SHAW. I have never handled any of the money, sir.

The CHAIRMAN. You have been down in that section representing the Palo Verde for years, I suppose.

Senator O'MAHONEY. May I ask the witness a question, Mr. Chairman?

The CHAIRMAN. Certainly.

Senator O'MAHONEY. As I understand this testimony, it boils down to this: That, in your opinion, as a matter of law, Mexico is not entitled to any water?

Mr. SHAW. That is the first premise.

Senator O'MAHONEY. Secondly, as a matter of comity, Mexico is entitled to only that amount of water which was being beneficially used prior to the construction of Boulder Dam?

Mr. SHAW. That is the second premise.

Senator O'MAHONEY. Third, with respect to the future, we should not in this treaty agree to give Mexico any water as a guaranty, no matter how much may be delivered over the boundary, regardless of what our consideration may be and our uses may be?

Mr. SHAW. No, Senator; that is not my third point. I have attempted to state the view which I believe is generally accepted in California and elsewhere in the Colorado River Basin, which is that there should be no subtraction from the settled use by Mexico prior to the building of Boulder Dam; that there is a certain moral quality about that situation which entitles them as a matter of morals and comity to continue receiving such waters as they had before Boulder from the natural flow, but not the conserved waters of Boulder, if you please.

Is there any further question about that?

Senator McFARLAND. How should that be settled? Should we settle it by treaty?

Mr. SHAW. I think it is entirely proper and probably desirable that we should.

Senator McFARLAND. Suppose they will not settle on that basis? Then what is the next thing?

Mr. SHAW. Let them rest. We have the river in our control, within our entire discretion; we can do what we please with it; we can do what we think is just and not be compelled by false quantities.

Senator O'MAHONEY. I am not clear in what respect you feel I did not, in my third statement, or third item, correctly state your attitude.

Mr. SHAW. I think your statement was that we were not of a mind to give Mexico any water by agreement.

Senator O'MAHONEY. Yes; above the amount to which she had established beneficial uses prior to the storage at Boulder Dam, regardless of the amount of water that would flow across the boundary.

Mr. SHAW. With the inclusion of that qualification, I am entirely in agreement with the Senator's statement.

Senator O'MAHONEY. So it would amount to this: That if over a long period of years, sufficient water were delivered over the boundary to enable Mexico to apply that water beneficially on a much larger acreage than now, in case of drought and a shortage of water you feel that the United States should say to Mexico that the entire loss should be suffered by Mexico?

Mr. SHAW. I agree; yes, Senator. The entire loss? No.

Senator O'MAHONEY. The entire reduction.

Mr. SHAW. Do you mean ratable reduction, Senator?

Senator O'MAHONEY. No, I do not; I mean the entire reduction.

Mr. SHAW. The entire loss? No. I feel that there is some moral obligation on the United States to continue to allow Mexico to have what she could have had from the natural flow, as the natural flow may go up or down from year to year. Having in mind some general relationship—

Senator O'MAHONEY. Let us make it specific, if I may interrupt you. Did you recognize Mexico's right, as a matter of comity, to 750,000 acre-feet?

Mr. SHAW. I think we can put it that way.

Senator O'MAHONEY. This is just for the purpose of argument.

Mr. SHAW. Yes.

Senator O'MAHONEY. Suppose the flow of the river in some future year should be reduced by two-thirds.

Mr. SHAW. Yes.

Senator O'MAHONEY. Then it is your proposal that regardless of how much water may have been delivered to Mexico in the intervening years, Mexico in that period of reduction should be satisfied with 250,000 acre-feet?

Mr. SHAW. Mexico should fare as she would have done with an uncontrolled natural river. In other words, if under those conditions, she would have been able to receive 250,000 acre-feet, she should have it.

Senator O'MAHONEY. Then it is your statement to this committee that, as a matter of comity among nations, and as a matter of our

relations with Mexico, we should now say to Mexico that the United States reserves to herself the right to divert and use in the United States all the waters of this river save 750,000 acre-feet, and that the amount available for Mexico should be reduced in accordance with the necessity arising from drought?

Mr. SHAW. I think that question involves some conflicting elements, Senator.

Put it this way: It has been the view of the Colorado River Basin States consistently up to, we will say, 1943 that somehow notice ought to be given to Mexico that she is not entitled to the use of conservation works in the United States. I do not consider personally that that is a factor of very great importance, because that notice was served on Mexico in 1928 by the terms of the first section of the Boulder Canyon Project Act. Senator Pittman explained that fact on the floor of the Senate and there was no dissenting voice.

That is, I believe, a fair statement of the policy of the United States, a declaration to Mexico and to the world that the impounded, conserved waters of Boulder Dam were reserved exclusively for use in the United States. That amendment was put in, I believe, by Senator Hayden.

Senator O'MAHONEY. There is in the act a provision to the effect that the act itself is not to be considered as a denial or recognition of any rights to Mexico. What weight do you give that?

Mr. SHAW. As in conflict with the other expression, that the stored flood waters should be used exclusively in the United States, I do not think there is any question that the specific overrides the general. This vague statement that nothing herein constitutes an admission or a denial of any right, if any, in Mexico, could not possibly control the positive and emphatic statement not only that the water should be used in the United States, but that it should be used exclusively in the United States. That latter clause is superior, in our interpretation of the statute.

Senator O'MAHONEY. Was it not a declaration by Congress that it was reserving judgment upon any negotiations that might take place with Mexico with respect to the river?

Mr. SHAW. I hardly think so; I think it was an innocuous thing that has no particular meaning.

Senator O'MAHONEY. That is, it was just a congressional act without any real purpose or effect? Surplusage? Is that your opinion?

Mr. SHAW. When Congress not only says, "We do not admit or deny any rights of Mexico," but in addition to that says, "if any," indicates it is dealing with something pretty tenuous, pretty vague.

The CHAIRMAN. On the contrary, is it not a recognition that Mexico has some rights? The act mentions them and says, "We are not saying 'Yes' or 'No' to any rights Mexico might have."

Mr. SHAW. Well, we certainly do not admit that they have a right by that statement.

Senator DOWNEY. Well, Mr. Shaw, would not the only interpretation you could place upon that statute be that there is a direct statement by Congress that no beneficial use shall exist in Mexico to the stored waters of Boulder Dam, in effect, and that the rest of it, of course, would apply to the natural flow of the river? That is, there

is nothing in this act that expressly admits or denies the right of Mexico in the natural flow of the river. You have one general statement and one specific, because Congress could hardly stultify itself by starting out and saying that all the stored waters of Boulder must be used in the United States and cannot be used elsewhere, and then contradicting that provision.

Senator O'MAHONEY. I am not arguing the question; I am merely trying to bring out the meaning.

Senator DOWNEY. I understand.

The CHAIRMAN. There is the language. We have read it a dozen times.

Senator DOWNEY (reading):

* * * for the purpose of controlling the floods, improving navigation * * * and other beneficial uses exclusively within the United States. * * *

The CHAIRMAN. Exactly; "uses."

Senator DOWNEY. I should like to make the comment that the expression "reserving the beneficial uses to the United States" is even stronger than if it said "reserving the stored waters of the United States."

Mr. SHAW. On the subject matter that Senator O'Mahoney has just mentioned, I might give you the discussion that occurred on the floor of the Senate on this particular amendment which became section 20. This is rather pointed. I am reading from page 593 of the Congressional Record for December 14, 1928.

Mr. KING—
of Utah—

My understanding has been that some amendment would be offered which would be an admonition to Mexico that the waters of the Colorado River are claimed and have been claimed by the United States, unless, perhaps, the limited quantity heretofore used for beneficial purposes in the Republic of Mexico.

Mr. JOHNSON—
Senator Johnson of California—

This amendment does not affect that matter. It would have to be covered by a different amendment entirely. No amendment of that sort has been offered, for reasons which I think confidentially can be conveyed to the Senator from Utah by the Senator from Colorado.

And it was covered by the amendment offered by Senator Hayden: "Exclusively within the United States."

Mr. PHIPPS—
chairman of the Committee on Irrigation from Colorado—

May I call the attention of the Senator from Utah to the language in section 1 of the bill, which provides that the water shall be used exclusively within the United States.

Mr. KING. I am familiar with that. But let me ask the Senator from California, Does not this amendment which he has just offered confirm, or is it not a recognition of, the claims of Mexico to water already used, or which she claims to have used in Mexico?

I think that was Senator O'Mahoney's question.

Mr. Johnson's answer was: "Specifically, no."

Mr. King said:

I would not be in favor of any amendment which would indicate that we concede any right to Mexico to use the waters of the Colorado River.

Mr. JOHNSON. I quite agree with the Senator from Utah. This is innocuous, in my opinion, but is desired by certain people who are interested in having it inserted in the bill.

My information is—and it is unofficial—that the amendment was originally presented by Congressman Garner, of Texas.

The CHAIRMAN. In the Senate?

Mr. SHAW. In the House.

The CHAIRMAN. You were talking about Senate amendments.

Mr. SHAW. Yes. You will recall that the bill went through many transformations in both the House and the Senate, and that the Senate bill was finally amended to conform with the House bill.

Senator MILLIKIN. Mr. Shaw, how do you bring the compact into relation with the act and into relation with the treaty?

Mr. SHAW. The compact, as Mr. Swing testified, but did not have or take the time to amplify, was distinctly affected or, you might say, modified by the action of Congress in the Boulder Canyon Project Act.

One item which he discussed with you, I believe, the other day was the matter of navigation. The compact makes navigation subordinate to everything. In the Project Act Congress makes navigation superior to all other uses. That is what you would call an amendment or provision or reservation, or whatever it is. It is changed.

Senator MILLIKIN. Must not the compact be read in *pari materia* with the act?

Mr. SHAW. The two must be construed together.

Senator MILLIKIN. And the references to the possibility of a treaty with Mexico are not vague in the compact?

Mr. SHAW. They are general.

Senator MILLIKIN. They are general, but they are not vague. They could not be other than general, since there was no treaty. There were no specific terms before the Congress for consideration. Do you invalidate the compact to that extent?

Mr. SHAW. Put it this way, Senator: The Project Act declares that the stored waters—newly created waters—shall be used exclusively within the United States. That constitutes, in my opinion, a declaration of policy on the part of the United States and a declaration that the United States will not use its treaty-making power, which it has unquestionably under the Constitution, to any broad extent it may choose to use. It will not use that power except with relation to the natural flow of the river, and especially will not use it with relation to the stored floodwater.

Senator MILLIKIN. Under your theory, the act does modify the compact?

Mr. SHAW. I think it qualifies it.

Senator MILLIKIN. Yet the act did not become effective until the compact had been completed.

Mr. SHAW. Let us attract your attention, Senator, to this: The compact was not an agreement of the United States; it was an agreement among seven States which the Congress, because the Constitution required it, approved.

Senator MILLIKIN. The Constitution required it; and if the authority was given, all lawful processes were followed. What is the matter with that?

Mr. SHAW. But the United States is not a party; and if you will read the literature of the time, you will find that it was definitely understood by everybody concerned that the seven States were the parties. They are so named in the compact, and the United States is not named.

Senator MILLIKIN. Assuming that to be true, the act itself did approve the terms twice in the compact, no matter who the parties may be to the compact; is not that correct? The act itself did not become effective until the compact became effective?

Mr. SHAW. That is absolutely correct.

Senator MILLIKIN. They were paced in their effectiveness. It is all part of one thing.

Mr. SHAW. The compact was an agreement among States which could become effective only if Congress consented to approve it.

Senator MILLIKIN. Did California consent to the compact?

Mr. SHAW. Yes; upon consideration, that consideration being the adoption at the same time by the Congress of the United States of the Project Act, the Project Act being within the power of the United States to enact.

It is believed that the parties to the compact approved the compact thereafter, after the Project Act, and specifically California approved it on March 4, 1929, in the light of the terms of the Project Act.

Senator MILLIKIN. But the language of the compact being the later language, and being language specifically approved by California, does not that rather preclude California from reading the language out?

Mr. SHAW. No, I do not consider the compact as the later instrument.

Senator MILLIKIN. Is it not the later instrument? The later language?

Mr. SHAW. I do not consider that it is the later language. The language of the compact was signed in 1922.

Senator MILLIKIN. The last action was taken by the State?

Mr. SHAW. By the States, in view of the offer made by the United States.

Senator MILLIKIN. California signed the compact and has considered itself to be bound by it. The compact fairly reeks with references to a future treaty.

Mr. SHAW. It has one provision. It does not reek very much.

Senator MILLIKIN. It provides how much water should be allocated if we make a treaty with Mexico. It could not go any further.

Mr. SHAW. Yes, Senator; it could have gone to the extent of consenting that a given percentage of water be given to Mexico.

Senator MILLIKIN. We were not making a treaty with Mexico at that time.

Mr. SHAW. Correct. I call your attention, Senator, to the language of the Supreme Court in the case of *Arizona v. California*, the first case between Arizona and California, at page 456 of 283 United States Reports, in which the Court refers to the act and the compact on the subject of navigation. [Reading:]

But the act specified that the dam shall be used, first, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses and satisfaction of present perfected rights; and third, for power. It is true that the authority conferred is stated to be "subject to the Colorado River compact" and that instrument makes the improvement of navigation subservient to

all other purposes. But the specific statement of primary purpose in the act governs the general references to the compact.

So I believe that that applies also to the matter of the Mexican Treaty and the use of water exclusively in the United States.

Senator MILLIKIN. Was not that case, for the purpose of the case, limited to the navigability or nonnavigability of the stream for power purposes?

Mr. SHAW. Oh, no.

Senator MILLIKIN. Was not that all that was before the Court?

Mr. SHAW. The question of power was not before the Court at all. The question of navigation was the main question; the question of power was not emphasized.

Senator MILLIKIN. Let me suggest that the Court had to find the stream navigable in order to justify the expenditure by Congress.

Mr. SHAW. It did so find.

Senator MILLIKIN. It found it navigable in order to justify an expenditure for power purposes; so that limits it.

Mr. SHAW. Do you mean for electric power?

Senator MILLIKIN. For the Federal expenditure to which the case refers.

Mr. SHAW. I should like to call your attention there to the fact that the Supreme Court said that the general clause, subject to the compact, is not controlling over the specific clause, relating to navigation.

Senator MILLIKIN. For the purpose before the Court, to wit, the authorizing of an expenditure on the stream, it had to be declared navigable if the expenditure were to be made.

Mr. SHAW. So I think we are agreed, possibly, that the specific things in the Project Act which override or qualify the compact are the prevailing law, rather than the generalizations in the compact.

The CHAIRMAN. Mr. Shaw, are you about ready to conclude?

Mr. SHAW. No; I have not reached the conclusion.

The CHAIRMAN. You asked for 30 minutes, and we have given you 2 hours.

Mr. SHAW. I regret that the request was made before I came to Washington. I was not a party to making the specific request.

The CHAIRMAN. Well, we are about ready to recess at this time of day.

Senator MURDOCK. Before you recess, Mr. Chairman, it has been called to my attention that there are three witnesses here from Utah who are very anxious to get away. My understanding is that they are here at their own expense. All three of them guarantee that they will not take to exceed a half hour.

Senator DOWNEY. A half hour apiece.

Senator MURDOCK. Oh, yes; an hour and a half for the three.

The CHAIRMAN. We will take that up in the morning, when the committee meets. We will have an executive session in the morning.

Senator MURDOCK. At least, give us a little variety. We have a few people here from Utah and Wyoming.

The CHAIRMAN. What is the disposition of the committee?

Senator WILEY. Let us find out.

Senator DOWNEY. There would be no chance that you could conclude before 5 o'clock, Mr. Shaw?

Mr. SHAW. I hardly think so.

Senator DOWNEY. My disposition would be to adjourn.

The CHAIRMAN. I want to submit this question for your thought and your reply in the morning. You stress the difference between comity and international law and place great emphasis on the fact that you could not arbitrate anything except upon the basis of international law. Now, whether you base it on comity or on law, if the United States should conclude that this treaty is to its own advantage, in that it will limit forever the amount of water that Mexico can ever claim, is there any reason why we should not do it, regardless of whether it is founded on comity or on law or on nothing but our conscience?

Mr. SHAW. I think that is an over-all conclusion which this committee will weigh before it decides.

The CHAIRMAN. I want your view. What difference does it make whether it is comity or law or just common sense, if it is to our advantage to make the treaty?

Mr. SHAW. If you take it on the basis of common sense, it seems to me there can be no common-sense conclusion that it is to the advantage of the United States.

The CHAIRMAN. I am assuming that we have concluded it.

Mr. SHAW. Then, you have voted. I say it is not common sense to consider this treaty.

The CHAIRMAN. You have not answered the question. I say, on the assumption that the United States Government should conclude that it is to her advantage to do this thing, what difference does it make whether you base it on comity or international law or common sense?

Mr. SHAW. I do not think it makes any. I think it makes a difference whether you think that the price is worth paying.

The CHAIRMAN. We will adjourn until tomorrow morning at 10:30 o'clock. The committee will hold an executive session at 10 o'clock, but we may not begin the public hearing in this matter until 10:30 or a quarter of 11.

(At 4:45 p. m. an adjournment was taken until Friday, February 2, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

FRIDAY, FEBRUARY 2, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room in the Capitol, Senator Tom Connally (chairman) presiding.

Present: Senators Connally (chairman), George, Thomas of Utah, Guffey, Tunnell, Lucas, Johnson of California, White, Shipstead, Austin, and Wiley.

Also present: Senators O'Mahoney, Downey, McFarland, Millikin, and Murdock.

The CHAIRMAN. The committee will come to order.

Mr. L. C. Bishop, of Wyoming, at the request of Senator O'Mahoney and with the consent of California, will go ahead and testify.

STATEMENT BY LOREN C. BISHOP, STATE ENGINEER AND INTER-STATE STREAMS COMMISSIONER OF THE STATE OF WYOMING

The CHAIRMAN. Give the stenographer your name and occupation.

Mr. BISHOP. I am Loren C. Bishop, State engineer and interstate streams commissioner. I represent the State of Wyoming.

The CHAIRMAN. You say you represent the State of Wyoming? What authorization have you for that statement? Will you set that forth.

Mr. BISHOP. I will come to that.

My name is Loren C. Bishop. I was born and raised on an irrigated ranch in Converse County, Wyo., and was educated in the Wyoming public schools. I have been a licensed and practicing irrigation engineer for 38 years, in Wyoming. Am a member of the Wyoming Engineering Society and the American Society of Civil Engineers.

At the request of Gov. L. C. Hunt, I represent the State of Wyoming in the capacity of State engineer and interstate streams commissioner, and as a member of the Six States Committee and the Committees of Fourteen and Sixteen of the Colorado River Basin. My associate on these basin committees is Hon. H. Melvin Rollins, of Cheyenne, a former president of the Green River Basin Development Co. of southwestern Wyoming and the present president of the Wyoming Reclamation Association. Mr. Rollins fully concurs in my position as herein outlined.

The principal interest of Wyoming in the pending Mexican treaty is the best possible protection of our water rights, both present and potential. As those who have testified in support of the treaty have

covered the situation quite thoroughly, I will only summarize the principal reasons why Wyoming favors the treaty:

1. Mexico is entitled to its equitable share of the waters of the Colorado River, an international stream.

2. There are three methods whereby such a question can be settled: (a) By negotiation, (b) by arbitration, (c) by war.

3. We of Wyoming prefer the first-named method, which was selected by the United States State Department, in this instance, as we believe our interests are thus best protected.

If the arbitration method is employed we believe that Mexico stands to continue in the right to the use of as much water as they have applied to beneficial use prior to the arbitration. This amount might exceed 5,000,000 acre-feet per year.

The last-mentioned method is out of the picture so far as Wyoming is concerned, as we do not favor war for settlement of such a problem.

4. The situation sums up to this: The virgin or reconstructed flow from which all consumptive uses must be deducted is 18,000,000 acre-feet. Allocation to the upper basin, 7,500,000 acre-feet; and to the lower basin, 7,500,000 acre-feet, both in perpetuity. To the lower basin an additional 1,000,000 acre-feet. To Mexico by the treaty, 1,500,000 acre-feet. Total allocation, 17,500,000 acre-feet. Deducting this from the 18,000,000 acre-feet, we have 500,000 acre-feet of surplus over and above all allocations.

At this point I offer a correction to the statement of Mr. Elder to the effect that the Green River Basin Development Co. of Wyoming opposes the treaty by reading the resolution recently passed by that company. I quote the same from a letter from Mr. Norman Barlow, president of the company, Senator J. C. O'Mahoney, of Wyoming:

We are hereby opposed to the ratification of the Mexican treaty between the United States and Mexico in the allotting of 1,500,000 acre-feet of water from the Colorado River to the Mexican Government until the water of the four upper basin States in the Colorado River drainage is allocated to the respective States.

These people merely desire to know the extent of their obligation before assuming it. The Wyoming Reclamation Association at its annual meeting last fall passed a resolution favoring the treaty.

Governor Hunt recently appointed commissioners and requested the governors of the other upper basin States to do likewise for the purpose of negotiating a compact for division of the 7,500,000 acre-feet allocated to the upper basin.

We of Wyoming have given this subject much careful study and serious consideration. I myself have been over the entire area on the ground including the irrigated and irrigable lands in the United States and Mexico. I believe the allocation of 1,500,000 acre-feet per year to Mexico to be fair and equitable and I sincerely hope that the treaty with Mexico making this allocation meets with the approval of the Senate of the United States.

That is all I have, gentlemen.

The CHAIRMAN. I want to congratulate you. It is very succinct and clear.

Senator JOHNSON of California. You congratulate him on the brevity?

Senator DOWNEY. Mr. Chairman, I have two or three very brief questions.

The CHAIRMAN. Just a moment. The Committee on Foreign Relations this morning authorized and directed the chairman to invoke the following procedure. Hereafter the witnesses will be expected to read their statements or deliver them without interruption except from some member of the committee, if necessary, which I hope will not even happen. After they shall have concluded, then they will be subject to questioning. So, under that procedure, if no member of the committee wants to interrogate the witness, Senator Downey will be recognized.

Senator DOWNEY. Mr. Bishop, is it correct that the Farm Bureau Federation of Wyoming has passed a resolution opposing the adoption of the treaty?

Mr. BISHOP. No, sir; it is not. They passed the same kind of resolution that I just read.

Senator DOWNEY. Is it correct that the Livestock Growers Association has passed such a resolution opposing the treaty?

Mr. BISHOP. The same as I just read—not opposing the treaty.

Senator DOWNEY. That was only four or five lines; was it not?

Mr. BISHOP. Yes, sir.

Senator DOWNEY. Will you reread that to me? I did not entirely understand it.

Mr. BISHOP. You bet I will.

We are hereby opposed to the ratification of the Mexican treaty between the United States and Mexico in the allotting of 1,500,000 acre-feet of water from the Colorado River to the Mexican Government until the water of the four upper basin States in the Colorado River drainage is allocated to the respective States.

Senator DOWNEY. You do not expect that allocation to take place for many years, do you, Mr. Bishop?

Mr. BISHOP. Yes, sir; I expect it to take place right at once. Our Governor, under the terms of the Colorado River compact, has requested the other governors of the upper basin States to appoint delegates and immediately think of this matter, because these people are anxious about it.

Senator DOWNEY. Then do you agree with the content of that resolution, that the approval of this treaty should go over until after there has been an allocation of the water to the upper basin States?

Mr. BISHOP. No, sir; I do not. Senator O'Mahoney has a letter this morning that I believe he wants to read into the record following my testimony, from Mr. Melvin Rollins, who is a former president, as I stated, of the Green River Basin Development Co., stating his idea of the situation, and asking him not to hold up the treaty on account of that resolution, that it does not mean that they opposed the treaty. It is just to sort of get us fellows that are on this treaty working a little harder to get this division of the water; that is what it is really for.

The CHAIRMAN. As I understand it, the allocation as between the four upper basin States is a matter for judgment among those four States.

Mr. BISHOP. That is right.

The CHAIRMAN. The compact simply allocates so much water to the upper basin States, and they are then to arrange among themselves as to the quota of each of the several States.

Mr. BISHOP. Yes, sir; that is right.

The CHAIRMAN. That is what you are talking about, to be accomplished at an early date?

Mr. BISHOP. Yes, sir.

The CHAIRMAN. That is all.

Mr. BISHOP. And at a very early date.

Senator DOWNEY. No further questions.

Senator WILEY. I would like to ask this question. Are you an engineer, did I understand?

Mr. BISHOP. Yes, sir.

Senator WILEY. You said you got acquainted pretty well with the lay of the ground involved in the Colorado Basin. Now, do you think that if there were this 1,500,000 acre-feet guaranteed to Mexico, that that would in any wise prejudice California's landed interests?

Mr. BISHOP. It would not prejudice any of their interest, in my opinion, under the allocation made by the compact, of 4,400,000 acre-feet of water.

Senator WILEY. Well, I think I understand what you mean. Now, let me ask you another question, right up that alley. This is an agricultural country. California is a growing State. Do you think that looking into a reasonable period in the future it might be wise not at this time to transfer in perpetuity an additional 750,000 acre-feet of water?

Mr. BISHOP. What do you mean by "an additional 750,000"?

Senator WILEY. Well, it is practically agreed that Mexico should have at least 750,000?

Mr. BISHOP. Oh, yes.

Senator WILEY. The point in dispute is that other, the second 750,000, as I understand it, and the additional water, that there is some conjecture about. We have got to think in terms of tomorrow in this country, and the rights of our citizens. To me that is the only question in the case.

Mr. BISHOP. We have very seriously considered that question.

Senator WILEY. Well, have you considered it simply from the standpoint of Wyoming—

Mr. BISHOP. Yes, sir.

Senator WILEY. Or have you considered it from a broader standpoint?

Mr. BISHOP. From the standpoint of the United States.

Senator WILEY. And taking into consideration all the equations you reach the conclusion that it is a wise treaty to make?

Mr. BISHOP. Yes, sir; I have come to the conclusion it is the best possible treaty that we can get.

Senator WILEY. Well, of course, I could ask you to particularize your conclusions. Can you give them, 1, 2, 3, 4, why that is the best treaty?

Mr. BISHOP. Yes; I believe I can. The State Department has kept the Committee of Fourteen and Sixteen of the Colorado River Basin informed ever since they started the negotiation of the treaty, and they were able to get the Mexican Government to reduce their demands from 3,600,000 acre-feet to 1,500,000. The Committee of Fourteen did their best to keep them down around 800,000, but we found we

could not do it, and we finally went along with the State Department, because that was, we figured, the best we could do.

Senator WILEY. That is all.

Senator O'MAHONEY. Mr. Bishop, I wonder if I might ask you to explain to the committee, if you have not already done so, what the possibilities of development in the upper basin and particularly in Wyoming are?

Mr. BISHOP. In Wyoming we have about 325,000 acres of good tillable, irrigable land that can be irrigated, and there is plenty of water from our portion of the water of the allocation of 7,500,000 acre-feet to the upper basin to take care of that.

Senator O'MAHONEY. How much of this development can be carried on without the erection of storage?

Mr. BISHOP. My estimate on that would be about 60,000 or 70,000 acres. We have one project of 40,000 acres. It is called the Seedskeddy (?) project, recommended by the Bureau of Reclamation for development, and their report shows that no storage is necessary to take care of that one project of 40,000 acres.

Senator O'MAHONEY. You have been all over this basin, have you not?

Mr. BISHOP. Yes, sir over all of it.

Senator O'MAHONEY. Are there any other projects of this kind in other States that you know of?

Mr. BISHOP. I do not know the details of the other States' projects.

Senator O'MAHONEY. Are there some that can be constructed without storage?

Mr. BISHOP. I would not be able to say as to the other States?

Senator O'MAHONEY. What is the possible storage capacity of various projects in the basin developed?

Mr. BISHOP. Well, the total storage capacity of the reservoirs to fully develop the upper basin is about 32,000,000 acre-feet, and the lower basin is an additional 22,000,000 acre-feet.

Senator O'MAHONEY. What is the capacity of Boulder Dam?

Mr. BISHOP. Boulder Dam is 32,000,000 acre-feet.

Senator O'MAHONEY. And this additional storage would amount to how much?

Mr. BISHOP. It would amount to 32 and 22; that would be about 54,000,000 acre-feet additional.

Senator O'MAHONEY. Of storage capacity?

Mr. BISHOP. Yes, sir; in order to give you complete control of the water resources and level out the peaks.

Senator O'MAHONEY. Now, are these reservoirs capable of being filled by the stream over a period of years?

Mr. BISHOP. Yes, sir.

Senator O'MAHONEY. What is the effect of that storage upon the delivery of water across the line?

Mr. BISHOP. Well, as the reservoirs would be developed there would be less water go to waste across the Mexican boundary.

Senator O'MAHONEY. How much water is going to waste now?

Mr. BISHOP. Approximately 9,000,000 acre-feet per year.

The CHAIRMAN. A little louder please. We all want to hear your testimony.

Senator O'MAHONEY. How much did you say?

Mr. BISHOP. Approximately 9,000,000 acre-feet per year.

Senator O'MAHONEY. In your opinion would the agreement upon the part of the United States to guarantee to Mexico 1,500,000 acre-feet operate to prevent this development of which you speak in Wyoming and elsewhere?

Mr. BISHOP. No, sir; it would not.

Senator O'MAHONEY. When we speak of guaranteeing 1,500,000 to Mexico, does that mean at any and all events, every year?

Mr. BISHOP. No; it does not. According to the treaty, in case of extraordinary drought they have to suffer the same as we, and any year when they would be short, in my opinion, we would be as short as they are, in the upper basin, and it would be an extraordinary drought any time they are short. That is my opinion.

Senator O'MAHONEY. In other words, if there were a drought on the river system and the water did not develop in the upper basin, the upper basin would not have any water to contribute?

Mr. BISHOP. That is right.

Senator O'MAHONEY. Mr. Chairman, I understand that Mr. Bishop referred to a letter which came to my office this morning from the president of the Wyoming Reclamation Association. In view of the fact that Mr. Bishop has mentioned it, I will read the letter into the record. It is addressed to me, and the author, Mr. H. Melvin Rollins, says:

In spite of all that you may have heard I have not found any opposition to the proposed treaty between the United States and Mexico, so far as the actual terms of the treaty are concerned. The only opposition seems to come from those in the Green River Valley who feel that the equitable allocation of the waters of the Colorado can be made between the upper basin States.

As there is little likelihood that such an allocation can be made in the near future I personally feel the treaty should not be held up pending this allocation.

The Wyoming Reclamation Association has gone on record unanimously favoring a treaty and I hope that you will use your influence and cast your vote to bring about this ratification.

With kindest regards, I am,

Sincerely yours,

H. MELVIN ROLLINS.

Let me ask you, Mr. Bishop, whether, in your opinion, it is necessary or desirable to delay the ratification of this treaty, which you have recommended, until after such allocation among the upper basin States is made?

Mr. BISHOP. No, sir; it is not.

Senator O'MAHONEY. Why?

Mr. BISHOP. Why, it has no connection, as a matter of fact. It is just the idea that they have that they want this allocation between the States, and I suppose they think by passing resolutions they can hurry Mr. Rollins and me up.

Senator O'MAHONEY. Well, it is not the personal angle that I am trying to develop, Mr. Bishop; it is the factual basis.

Mr. BISHOP. Yes.

Senator O'MAHONEY. Will the allocation among the States in any way affect the amount of water which will be delivered across the boundary?

Mr. BISHOP. In my opinion, not.

Senator O'MAHONEY. And it is your opinion, therefore, that it is to the advantage of the upper basin States to ratify the treaty so as to supply full time the demands that may be made upon the system?

Mr. BISHOP. That is right.

Senator O'MAHONEY. Thank you, Mr. Chairman.

The CHAIRMAN. All right. Thank you, Senator.

May I ask you one question, Mr. Bishop? I do not want to delay you, but as I understand your testimony the State Department all during the processes of this negotiation were in conference with and advising with the representatives of the seven States, the Committee of Fourteen, and with other negotiators?

Mr. BISHOP. Yes, sir.

The CHAIRMAN. Mexico made a demand, to begin with, for 3,600,000 acre-feet, is that right?

Mr. BISHOP. Yes, sir; that is what I understood.

The CHAIRMAN. Now, if the treaty is not ratified, would it or would it not, in your opinion, be probable that Mexico would continue to urge a larger allocation than the treaty provides for?

Mr. BISHOP. They would continue to use more water each year, and their demands would increase as her uses increased.

The CHAIRMAN. That is all.

Senator TUNNELL. The amount demanded by Mexico or asked was 20 percent approximately of the total water, was it not?

Mr. BISHOP. No, sir; it was less than 10. It is about 3 percent.

The CHAIRMAN. He means the other—the 3,900,000.

Senator TUNNELL. The 3,600,000.

Mr. BISHOP. Oh, I see what you mean. That is right.

Senator TUNNELL. And the amount allocated was less than one-tenth?

Mr. BISHOP. That is right.

Senator TUNNELL. That is all.

The CHAIRMAN. That is all, unless Senator George has some question.

Senator GEORGE. No questions.

The CHAIRMAN. All right. You are excused, Mr. Bishop.

Senator JOHNSON of California. Just a moment.

The CHAIRMAN. Pardon me. Wait.

Senator JOHNSON of California. Mr. Swing will cross-examine this witness.

Mr. SWING. I have no cross-examination, Senator Johnson.

Senator JOHNSON of California. You have none?

Mr. SWING. I have not.

Senator JOHNSON of California. None?

Mr. SWING. None.

The CHAIRMAN. Is that all? All right, Mr. Bishop.

UTAH

The CHAIRMAN. The committee authorizes me also to hear some witnesses from Utah at this point. It seems they have to leave the city and have reservations and are very anxious to get away, and Senator Murdock has conferred with the committee and these representatives of Utah are Fisher Harris, Mr. Watkins, and Mr. Godbe.

Senator MURDOCK. I understand they are here, Mr. Chairman, and are now ready to proceed.

The CHAIRMAN. I understand they think that 30 minutes each, or a total of an hour and a half, will be sufficient time.

Senator MURDOCK. That is what they estimated in their request, an hour and a half.

The CHAIRMAN. In your absence, Senator Murdock, we made a ruling that witnesses would be permitted to go ahead with their statements and there would be no interrogation by others than members of the committee until after they conclude their statements.

Senator MURDOCK. I will be glad to abide by that ruling.

The CHAIRMAN. All right. Whom do you want first? Whom do you want, Senator?

Senator MURDOCK. Mr. Fisher Harris. Do you desire to go ahead first, Mr. Harris?

Mr. HARRIS. Yes, sir.

Senator MURDOCK. Or one of the others?

The CHAIRMAN. Now, we expect Mr. Harris to live up to your hopes.

STATEMENT BY FISHER S. HARRIS, IN OPPOSITION TO THE PROPOSED MEXICAN TREATY

Mr. HARRIS. Mr. Chairman, gentlemen of the committee, and Senators, and you gentlemen from California, we appreciate very greatly your courtesies in permitting us to come on out of order.

My name is Fisher Harris. I am from Salt Lake City, Utah. I am here in opposition to the ratification of the treaty between the United States and the United Mexican States, on behalf of and as the authorized representative of the Metropolitan Water District of Salt Lake City, the Provo Water Users Association of Utah, and the Colorado River Water Users Conference, representing 80 percent of the actual water users from the Colorado system in the States of Wyoming, Utah, Colorado, Arizona, Nevada, and California.

I also represent the St. George and Washington Canal Co. and several other companies: Price Bench Canal Co., Springdale Irrigation Co., Flannigan Ditch Co., Hurricane Canal Co., Bench Lake Canal Co., Rockville Town Ditch Co., Rockville Irrigation Co., Toquerville Irrigation Co., Hall Ditch Co., Grafton Town Ditch Co., La Verkin Bench Canal Co., Virgin Canal Co., St. George Valley Irrigation Co., and all the water users of the Virgin River, a Utah-Colorado River tributary, the joint resolution of all of whom I am informed is already in the hands of the chairman, as is also the joint resolution of the water users who at Los Vegas, Nev., organized the Colorado Water Users Conference.

I shall have nothing to say as to those parts of the treaty having to do with the waters of the Rio Grande and Tia Juana Rivers, because the treaty proponents have emphatically repudiated the shameful suggestion that the interests of the United States and of the seven States of the Colorado have figuratively and literally been "sold down the river" for the benefit of any part of the United States. We have been assured again and again that each river system has been dealt with on its separate merits, and we must therefore take it to be so, and hence, there being no opposition to the treaty as it affects the Rio Grande or the Tia Juana, that it is a matter of stenography and printing and nothing else that stands in the way, at least on the part of the United States, of the consummation of a treaty as to those rivers.

As to the Colorado River we are faced with a very different condition of affairs. We have here persons who purport to represent the

States of Arizona, Colorado, New Mexico, Wyoming, and Utah, who urge ratification, but, on the other hand, we have representatives from all but one State, and, more important, I suggest to you, representatives of the actual water users of all but one of the States affected, who, in the interest of the United States and their States, ask you not to ratify this treaty—official representatives and water users of the Colorado, representative of Arizona, Colorado, California, Nevada, Utah, and Wyoming. The Arizona representation of actual water users in opposition is not less than 90 percent of them. Of Colorado, it is relatively small. Of California, it is all of them, and of Nevada, all of them. Of Utah, it is a substantial part of them, and of Wyoming, it is all of them.

Senator O'MAHONEY. All of whom?

Mr. HARRIS. All of the actual water users from those States.

Senator O'MAHONEY. By whom have you been so informed?

Mr. HARRIS. I have been so informed by Mr. Perry Jenkins, executive manager of the Green River Development Co., and by another gentleman from Wyoming, representing Mr. H. J. King, president of the Wyoming State Farm Bureau Federation, and president of the Big Horn Basin water users, of Owen, Wyo.

Senator O'MAHONEY. That is not the information that I get.

Mr. HARRIS. I have that from them, personally, Senator.

Senator O'MAHONEY. You are familiar with the way resolutions are frequently passed, without consideration, by luncheon clubs and other organizations?

Mr. HARRIS. I am familiar of course with resolutions of that character.

Senator O'MAHONEY. The official testimony that is here is that of the State engineer.

Mr. HARRIS. Yes, sir.

Senator O'MAHONEY. He has been working on this problem for at least 6 years.

Mr. HARRIS. I say this though, however, the Las Vegas conference resulted in a discussion of both sides of every aspect of this treaty, and at that conference the representatives of Wyoming, the water users, not the State engineers, but the actual persons who use water out of the Colorado River system, unanimously passed that resolution and expressed themselves affirmatively in favor of those things which were ultimately embodied in the resolution.

Now, you may have noticed, Senator, that when I came to Wyoming—

Senator O'MAHONEY. Let me say here that, as I look at this situation, we are here to determine the facts.

Mr. HARRIS. Yes, sir.

Senator O'MAHONEY. And not to count noses, to determine what the vote is.

Mr. HARRIS. Why, to be sure, Senator.

Senator O'MAHONEY. And when you or anybody else comes to the committee and says that 80 percent of all the water users or all of the water users or 30 percent of the water users believe thus and so and that you are speaking for them, I know that that cannot be the fact, so all I am interested in, and I am sure all that this committee is

interested in, are the actual engineering facts with respect to the amount of water and the deliveries of water and the utilization of that water.

Mr. HARRIS. I shall have something to say about that.

Senator O'MAHONEY. I will be very much interested in that.

Mr. HARRIS. I shall have something to say about that.

Senator O'MAHONEY. But I am not interested in blanket assertions of the number of people for whom you speak.

Mr. HARRIS. And I do assert it, Senator.

Senator O'MAHONEY. Nevertheless, it is not persuasive.

The CHAIRMAN. Mr. Harris, do you not think the Wyoming people are better able to judge of what they want than you, and that they ought to testify on these matters, here?

Mr. HARRIS. I know, however, what the sentiments of the Wyoming people are, and I would not want to express the judgment of the Wyoming people without authority.

Senator JOHNSON of California. We are determining, here, that papers of the gentlemen interested shall be read, and that after they have been read they are submitted to cross-examination, as Senators present may desire. Now, I do not like to see the rule broken in the very first instance that it comes before this committee. Pardon me for criticizing the chairman, but the chairman was the worst.

Senator O'MAHONEY. Senator Johnson, I offer to assume the responsibility. I came to this meeting from a very important meeting of the Committee on Military Affairs, where the so-called work-or-fight bill is under consideration, and when this rule was adopted I was not present; otherwise I certainly would not have interrupted the witness.

Mr. HARRIS. The interruption does not disconcert me in the slightest, Senator.

Senator JOHNSON of California. I do not deny your right to participate here, but the chairman's participation, in aid of you, I do not appreciate.

Senator O'MAHONEY. Let me interrupt you, Senator. If he is aiding me, he is only aiding the committee to get information.

The CHAIRMAN. Allow me to say, Senator, you misapprehended what I said awhile ago. I said that no Senator, unless he were a member of the committee, could interrupt the witness until he concluded, and I have heretofore been under the delusion that I was a member of the committee.

Senator JOHNSON of California. Yes. Now, are you, Senator O'Mahoney, a member of the committee?

Senator O'MAHONEY. I am not, Senator Johnson.

Senator JOHNSON of California. That ought to dispose of that question.

Senator O'MAHONEY. Yes, sir; I was in error in interrupting the witness.

The CHAIRMAN. Go ahead, Mr. Harris.

Mr. HARRIS. I appreciate the solicitude of the gentleman from California, but I do think that sometimes questions of that nature upon what a speaker says are helpful.

The CHAIRMAN. Well, if you will testify and leave off your observations, we will get along better.

Mr. HARRIS. Yes, sir. It would not be questioned, for example, that I represent the sentiments of the Metropolitan Water District of Salt Lake City, I take it, because I happen to be general counsel for that organization, and for the Provo water users organization, because I am a director of that association. I know their sentiments because members of those boards have expressed them to me. I know the sentiments of the water users of Wyoming for the same reason, because they have expressed them to me and because they have adopted formal resolutions which are before the committee.

To continue: In the meantime, the treaty has been amended by protocol, and it has been the subject of official correspondence as to the interpretation of certain of its provisions. I suggest to you that mere fact of the necessity for the protocol and this early manifestation of official uncertainty, and of this opposition, the very great weight of which is against ratification, impels the inference that something is wrong, and that no step that is final and irrevocable ought yet to be taken as to this treaty, or even a treaty.

It has been urged upon you that a treaty covering the subject of this wide difference ought to be consummated, and hence that this treaty ought to be, and the argument it seems to me is as logical, and no more so, than others of the proponents. There is no question here of a treaty, but only of this treaty, and this treaty is fundamentally wrong. The very arguments in support of it, as I expect to demonstrate, so characterize it.

Our spontaneous reaction to this treaty was to do what one State legislature has done, and what the legislature of Utah and the legislatures of other States have refused to do—approve it without knowing anything about it, merely because it was sponsored by certain respectable gentlemen; among others, by Mr. Bishop, of Wyoming. But it was very soon learned that those same gentlemen, not long before, had spoken and written a great deal more eloquently and more logically and convincingly to the opposite effect. And it was learned that for almost a quarter of a century every public officer of every State of the Colorado River Basin, of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming—and of the United States—whose duty it was to speak for his State or for the Nation, had said that a treaty of the effect of this one ought not to be, and could not be, made and had inferred that no one would have the temerity to propose one.

Now, I will state some basic facts and principles upon which we water users rely:

All waters of the Colorado River system and much more could be practically used in the United States.

Since any allotment to Mexico means the sacrifice of a corresponding amount of development in the United States, the extent of such sacrifice should be limited to that which the United States is bound, under some principle, to concede. It should not be determined solely by processes of bargaining.

The total water supply of the Colorado River is not sufficient to meet the requirements of possible developments in the United States alone, even if there were no allocation of water to Mexico. This means that any allocation of water to Mexico will result in a sacrifice of projects in the United States. Putting it another way, for every acre of land irrigated in Mexico from the Colorado River, an acre of land in the United States must perpetually remain barren desert.

Who is it that asserts these facts? Everyone asserted them shortly before the execution of this treaty. They were affirmed by all water users of the seven States of the Colorado. They are most solemnly

asserted by A. M. Davis, secretary of the Colorado River Commission of Arizona; Hugo B. Farmer, a member of that commission; Lewis A. Hauser, executive secretary of the Colorado River Board of California; Evan T. Hewes, chairman of that board; Clifford H. Stone, director of the Colorado Water Conservation Board of Colorado; John B. O'Rourke, a member of that board; Charles F. DeArmond, a member of the Colorado River Commission of Nevada; Alfred Merritt Smith, a member of that commission; Thomas M. McClure, State engineer of New Mexico; Fred E. Wilson, attorney for interstate streams commissioner of New Mexico; William R. Wallace, member of the advisory board, publicity and industrial development department (Utah); Grover A. Giles, attorney general of Utah; L. C. Bishop, State engineer of Wyoming, whom you have just heard; Ernest B. Hitchcock, a member of the State planning board of Wyoming; some of whom I apprehend will appear before you and urge that you ratify this treaty, as the result of which, should you follow them, one-half million acres of land of the United States will be relegated to desert waste forever, and one half million acres in Mexico will for all time be fertile and prosperous farmsteads. So they say, and so we say; but they ask that it be so. While we pray that no more than half of it shall ever become a reality.

There is no rule of international law which requires the United States to accord any assurance of Colorado River water to Mexico. the only obligation resting on the United States in the premises is to observe due comity toward Mexico. This obligation is one of equity and good conscience. Under the principle of comity, the United States should make available to Mexico all values which it can furnish without undue or imprudent sacrifice of its own interests.

The United States has entered into contracts for delivery of water and power from the Boulder Canyon project to certain public and private agencies. It has also made commitments for the construction of water and power projects, both above and below Boulder Dam and some of such projects are under construction. The principle of comity requires that the United States act in good faith and equitably toward its own citizens and agencies; in other words, toward itself, as well as toward the foreign country. It should not therefore disable itself from carrying out its solemn contracts and commitments made for the benefit of its own communities.

The agencies and communities interested in the contracts and commitments above mentioned have, in reliance on the statutes and official acts of the United States, invested upward of \$500,000,000 in construction of works and facilities with which to utilize water and power. They have obligated themselves to pay for these works over long periods in the future and have mortgaged their homes, farms, and factories to secure the debt. The United States, acting in good faith and good conscience toward them, should not disable them from carrying out their contracts with it, or paying their obligations, by taking away from them and conceding to another nation the water and power which it has contracted or committed itself to deliver to them.

Conceding that under the principle of comity the United States should not take away from Mexico the water which she has heretofore enjoyed and upon which she has based her established and relatively

permanent economy, the United States would on that theory be justified in conceding to Mexico the equivalent of her actual average uses of water from the natural flow of the river. By reason of Mexico's lack of storage sites, this was the limit of her benefits from the river, other than underground flow, prior to the closure of Boulder Dam in 1935.

Under no view of comity is the United States bound to share with Mexico the benefits of the construction of Boulder Dam and other works constructed by the United States on the river, except when as in the case of flood control such benefits can be shared without material sacrifice. The sites of these works are natural advantages which belong to the United States as a territorial sovereign. She has paid the cost of the works and has furnished the engineering genius and the energy which has made them possible. Mexico has contributed nothing to them and has no moral claim upon them.

The United States has constructed the Boulder Canyon Project, and local agencies have invested hundreds of millions of dollars in construction of their facilities, upon the faith of the provision of the Boulder Canyon Project Act that the stored waters of the river are for "beneficial uses exclusively within the United States." Any material allotment to Mexico of stored water would amount to partial repeal by a treaty of a most important provision of an act of Congress. Whether or not the executive and the Senate have the power to repeal such a provision by treaty, such power in any equitable view should be exercised with the full understanding of the consequences and the utmost circumspection.

That language and those sentiments are mine, and those are the sentiments of those on whose behalf I appear, but before they became mine or theirs, that was the language and those were the sentiments of the 14 authorities whose names and titles I have already given you, some of whom I expect will appear before you and use language and express sentiments of a very different effect.

Naturally, one wonders why. The question has very often been asked, and the answers have already been given here, and will be repeated, by proponents of this treaty.

No one whose spoken or written expressions have come to my notice claims that, before Boulder Dam, Mexico ever used or could have diverted from the Colorado River more than 750,000 acre-feet of water. In fact, it is well known that no successful Mexican diversion of any quantity had ever been made by Mexico or by anyone within Mexico before that time, and that none has been made since, and that it is doubtful, to say the very least, that without a grant to her of an easement on American soil and in American works, as this treaty proposes, she ever can. So it is that the 1929 offer of 750,000 acre-feet was actually, and properly, referred to as "just and generous," representing as it did, and does, not an average or secure or dependable diversion, but the maximum of one insecure, and undependable, and a diversion made by American interests, at American expense from an American river from American soil.

To be sure, Mr. Carson, of Arizona, has told you that, even before Boulder Dam, a great deal more than 1,000,000 acre-feet of water of the Colorado were available for use in Mexico which might have been appropriated. But he nor no one else contends or will that they

were appropriated, and everyone who knows anything at all about the subject knows, as Mr. Carson does, that very often during the season when water was most needed there was little or none whatever available, and that diversions in Mexico were attempted by Americans of ample means, and that they failed again and again.

But now you are told that we have a controlled river and that, for many years, more than 1,500,000 acre-feet of waters of the Colorado will flow into Mexico each year and that, if by treaty we do not limit Mexico to that quantity, they will be utilized there and that there will result a development, a use and an economy of which we cannot deprive her, that by such use there will develop a right, a practical situation the continuance of which, if denied by the United States, will be affirmed by arbitrators acting under the arbitration treaty of 1929.

That is the argument in favor of this treaty. And I submit to you that, when you analyze all that has been said or will be said, you will find it to be all and everything, and I am confident that, upon examination and analysis, you will conclude that it is nothing.

The use that is viewed with such alarm as to bring these gentlemen to urge this treaty upon you, in order to prevent it, how can it come about? Why, it cannot come about without the treaty or some other of similar effect. To use an expression of Mr. Carson's, "My engineers tell me" that Mexico cannot divert water from the Colorado without the use of the American facilities and without the diversion works upon American soil, which this treaty would give her the right to use and to construct. I quote:

By reason of her inability to divert water within her territory and her urgent necessity to obtain rights of diversion within the United States and controlled delivery at the boundary, Mexico will very shortly be compelled to seek a treaty.

So say the engineers and so say the 14 preeminent gentlemen whose names and titles I have given you. To be sure, the brief filed or to be filed by the so-called six States committee, and which is signed by some of these very same gentlemen, speculates upon the maybe-perhaps-remote possibility that some time something may turn up. But there is the considered judgment of the experts, of all of them, their formal statement of fact to the State Department of the United States of America, delivered more than 1 year prior to the actual execution of the treaty some of them now ask you to ratify. In short, they ask you to ratify this treaty in order to prevent a result which they themselves tell you cannot occur unless you ratify it. I said in the beginning that the very statement of their argument would characterize it as that paraphrase of it does characterize it.

But suppose, if you can, that these experts are all wrong, and that Mexico, without the use of American facilities and without the use of diversion works wholly or partly in the United States, could utilize some millions of acre-feet of the water from the Colorado, which for many years we cannot put to consumptive use in the United States and which will, therefore, run down the river. Is there anyone so naive as to suppose that Mexico would not use those waste waters merely because they were not covered by the treaty, even though she has hundreds of thousands of acres of land upon which to utilize them? I think not, and certainly Mr. W. R. Wallace, of Utah, and Mr. Davis, of Arizona, thought not. I quote them:

Mr. WALLACE. In my mind I fear, in spite of the treaty, if our water is used in Mexico for 25 or 30 years, we would have difficulty in claiming it.

Mr. DAVIS. I agree that it would be difficult to dry up Mexico after letting them use the water for 25 or 30 years.

Thus it is clear that the same problem would arise and the matter, submitted to arbitration, would inevitably, as Mr. Carson told you and as all proponents of the treaty have or will tell you, be decided against us. The result is, according to the proponents, that, treaty or no treaty, Mexico has the whip hand, and so we had better make a treaty, this treaty. But these experts are not wrong. There is no dissent from their statement of fact. It is Mexico who needs a treaty and is helpless without one, and she needs one for the reasons they have given you, because if all the water of the Colorado were hers by the gift of providence, or under the law, or as a result of arbitration, instead of ours as they are, they would be of no use to her. I quote again:

Not only must Mexico look to the United States for protection against floods and silt, such as has been provided by Boulder Dam, but she also must look to the United States for any firm water which she receives from the Colorado River and for facilities by which that water can be diverted from the river.

The CHAIRMAN. Whom are you quoting? You say you quote somebody.

Mr. HARRIS. I am quoting 14 preeminent water authorities from every one of the 7 States of the Colorado River Basin, their unanimous statement, their formal statement of fact delivered to the State Department of the United States, I think, in July of 1942. And if they can be relied upon—and I take it they can be——

The CHAIRMAN. Then or now?

Mr. HARRIS. Then—because why? The reasons for their having changed their minds—no; I must state that differently. They have not changed their minds. Let any of them deny any of those statements. Ask any of them that appear on this stand to deny any part of the statements that I have quoted and say they now believe them to be untrue. I apprehend that they will not say so. I apprehend that they will say, as has been said——

The CHAIRMAN. Go ahead with your testimony.

Mr. HARRIS. My testimony is that they have said why they have changed their minds—because of their apprehensions of the building up of use and our losing by arbitration. So, that which I have just quoted disposes of their argument.

Senator O'MAHONEY. Have you finished?

Mr. HARRIS. No, sir. I wish I had, for your sake as well as my own, but I have some pages left.

The CHAIRMAN. How much longer will you take?

Mr. HARRIS. I am reading very fast, and it will not take me 30 minutes to read this.

The CHAIRMAN. You asked for only 30 minutes, to start with.

Mr. HARRIS. Do you desire that I discontinue?

The CHAIRMAN. No; but I would like to have some assurance as to the time.

Mr. HARRIS. If I had not not been interrupted I would have been through before this.

Senator MURDOCK. It seems to me that the witness is reading about as fast as he can. He has been interrupted a number of times.

The CHAIRMAN. I am not going to stop him.

Senator JOHNSON of California. You just wanted to interrupt him. Senator MURDOCK. I think we might all agree that the opponents of this treaty have the same right as the proponents.

The CHAIRMAN. I am trying to give it to him.

Senator JOHNSON of California. You are not succeeding.

Mr. HARRIS. I say that disposes of that; and at the same time it disposes of the bogey of arbitration, for I assume that not even the most rabid of the arbitrationists will suggest the possibility of an award which would grant to Mexico the right to use or construct a diversion dam or canal, either wholly or partly within the United States of America.

Such rights can be acquired by Mexico by our voluntary act and not otherwise.

But a word more on the subject of arbitration, anyway. I wonder if anyone will really assert that the subject is arbitral at all. Certainly it is not without the concurrence of the Senate of the United States. If it is, then the board of arbitration would have the power and the right to dispose of the subject matter submitted, the allocation of the waters of the Colorado River system, and not merely a part of them, but all of them, and to make such an award that, instead of the waters made available by Boulder Dam and related works being devoted to beneficial uses exclusively within the United States, as Congress has declared they shall be, that they be devoted to beneficial uses exclusively within Mexico. We have been told in Utah that if this treaty is not ratified, Mexico would appeal to arbitration under the terms of the 1929 treaty, and that, since the majority of the board would be Latin-Americans, the award would inevitably be even more adverse to us than this treaty. If that is so, then the making of this treaty, and the prosperity, almost the very existence of the seven States of the Colorado River system rests upon the magnanimity of Mexico. But, of course, it is not so, and again the very statement of the proposal characterizes it as ridiculous.

Everything else is collateral, but if you will permit, I will say something concerning some of the collateral points raised by those who favor this treaty as it affects the waters of the Colorado.

This question of return flow—it has been given here as upward of 1,000,000 acre-feet. I did not hear, nor have I read the testimony of Mr. Tipton, but when he was questioned on this subject at the El Paso meeting of the Committee of Fourteen, he said that engineering estimates ranged from nothing to 600,000 acre-feet. What will it be? No one knows. But we do know that engineers are not in agreement upon their guesses, and that many of them say there will be none at all. And we know that the Arizona water users, who engineers claim will produce it, say that they won't; that they will use it over and over again themselves. The treaty is bad enough if the highest estimates are correct. Suppose that they are. How about the quality? It has been whispered around that the return flow, whatever it may be, will be unfit for the use to which we know Mexico intends to put it. But that has been off-the-record stuff. It mustn't be talked about, because, if it were, Mexico might be awakened and refuse to ratify. Mr. Timm, the State Department representative, at the meeting of the Committee of Fourteen, held at Salt Lake City during January of 1944, just before the treaty had been signed, said that the

Mexican representatives were concerned about this, but—and I use his words—"they were evaded." All this by the very persons who prate of equitable rights and fair dealing, and the like. If Mexico is entitled to a guaranteed first right to 1,500,000 acre-feet of the waters of the Colorado, she is entitled to 1,500,000 acre-feet of water fit for use, and, after having been guaranteed it by treaty, she could get it, plus the return flow, by arbitration, if necessary, for we couldn't refuse to arbitrate that, unless on the ground, as proclaimed, that "we put one over and that settles it."

Another statement by the proponents is that we must have a treaty in order to make possible and safe further developments contemplated in the United States. We must have not merely a treaty, you will notice, but this treaty. The lack of any treaty did not prevent the making of the Colorado River compact; construction of Boulder Dam; Parker Dam and power plant; Metropolitan Aqueduct water supply distribution of the Metropolitan Water District of southern California; construction of Imperiad Dam; the All-American Canal; Coachella branch; Imperial power project; Gila canal and distribution system; the Parker project main canal; Headgate Rock Dam; Parker power to Phoenix, Tucson, and Imperial; Boulder power plant and 11 transmission lines of 200 to 300 miles—Pioche, Nevada, Kingman-Needles-Gene Wash; the California electric line to San Bernardino and three circuits to Los Angeles and Las Vegas; the starting of the Davis Dam, and the Dewey Dam on the upper reaches of the River; Provo River project; Colorado River-Big Thompson in Colorado, and doubtless many others with which I am not familiar.

This treaty, which its proponents say must be ratified to prevent a condition which they say cannot exist unless it is ratified—if this treaty is to be ratified, anyway, then the question of no return flow or a million acre-feet is vital. And that is why it is so stressed before you. Would you give an award of 10 cents on the evidence, let alone part with a national resource of incalculable value?

Until this treaty was proposed and certain persons in Arizona, Colorado, and Utah were, by some means, induced to approve it, you will search the record in vain for an official American expression of countenance to a guarantee to Mexico of 1,500,000 acre-feet, plus the use of American works to enable her to use it. Until that time there was only a weeping and wailing at the fact that comity, nothing else, indicated the surrender to Mexico of as much as 750,000 acre-feet of the waters of the Colorado. The allotment to her of that quantity until that time was declared to be just and generous. The language and sentiments of all of the representatives of all the States and of those of the United States I have already quoted to you. Now you find a few of them here addressing you in terms and filing briefs in terms precisely those one would expect to emanate from the advocates of a foreign nation, terms which, if actually from a foreign advocate, would be regarded as impudent effrontery.

Permit me to paraphrase them, and judge whether I do it fairly.

"All of the waters of the Colorado River arise in your country; not a drop of them in ours. They are one of your most precious natural resources. We have not diverted any of them from the river, but some years ago your citizens did, by means of a canal and diverting works that commenced in your country, ran into ours and back into

yours. They agreed that, as long as they used that canal, and no longer, as much as one-half of the water that ran through it and that was required by a corporation nominally of our country, but actually owned by your citizens, could be diverted from the canal by that corporation. The most that ever was diverted was during the year 1928. During that year it was 750,000 acre-feet. Prior to that date, the diversion by the Mexican corporation was never that great, and conditions on the river were such that the water supply was insecure and uncertain and at times there was none. In the meantime, our lands were subjected to floods. We had no safe and sure means of utilizing the water of this river without your help. Now, the seven States of the Colorado River Basin have apportioned all of the waters of that river among themselves, and they have foreseen the probability that the specific apportionments made will be insufficient to satisfy their necessities, and they have provided for a further apportionment at a later date. The legislatures of all those States have approved what they have done and the United States of America has approved of it.

"Your country has constructed great engineering works which greatly benefited mine. Your Congress has decreed that the water made available by these works shall be for beneficial uses exclusively within the United States. But now I ask that, in addition to the necessary and inevitable benefits accruing to my country by reason of those works, you hold and release to mine some of that water, and I ask that you guarantee to my country, not merely the maximum of water which your citizens formerly diverted to mine, but twice that amount, and that you get it to my country through your diversion facilities, and that you deliver it to me on my order. If you do not do this, I will have recourse to a board of arbitration, the majority of whom will be favorable to my interests, and it is a foregone conclusion that that board will not only give me what I now ask but something substantial in addition."

The CHAIRMAN. Is that a quotation from somebody?

Mr. HARRIS. That is a paraphrase of an argument in favor of the treaty.

The CHAIRMAN. Is that your language?

Mr. HARRIS. That is my language.

The CHAIRMAN. Go ahead.

Senator McFARLAND. May I say something off the record?

The CHAIRMAN. Yes.

(Informal discussion followed, at the conclusion of which the following proceedings took place:)

Mr. HARRIS. Who will say that the limitations of comity would not be reached if all that were done as to 750,000 acre-feet and no more? I quote again:

All the water of the Colorado River system and much more could be practically used in the United States. Since any allotment to Mexico means a sacrifice on a corresponding amount of development in the United States, the extent of such sacrifice should be limited to that which the United States is bound under some principle to concede.

There is no rule of international law which requires the United States to accord any assurance of Colorado River water to Mexico—

The CHAIRMAN. When you say you quote, I would like you to say from whom you are quoting.

Mr. HARRIS. I am always quoting these 14 authorities whom I have mentioned.

The CHAIRMAN. You were not quoting them a while ago. You said you were quoting yourself.

Mr. HARRIS. I so characterize it.

The CHAIRMAN. Yes, when I asked you about it; but not before.

Mr. HARRIS. I said, "Permit me to paraphrase them and judge whether I do it fairly."

The CHAIRMAN. All right.

Mr. HARRIS (continuing reading):

As has been stated many times heretofore and is of vital importance that it is repeated here for emphasis, the total water supply of the Colorado River is not sufficient to meet the requirements of possible development in the United States alone, even if there were no allocation of water to Mexico. This means that any allocation of water to Mexico will result in a sacrifice of projects in the United States. Putting it another way, for every acre of land irrigated in Mexico from the Colorado River, an acre of land in the United States must perpetually remain barren desert.

I have 120 seconds more.

I might ask whether or not the 1942 plan of the Committee of Fourteen from which I have quoted is more or less water to Mexico than is proposed by this treaty. I do not know. It is an engineering problem. But I do know this, that it reverses the guaranty, and that the guaranty is to the United States, not to Mexico. The guaranty to Mexico is, I submit to you, absurd. Let the guaranty be as is the effect of the Committee of Fourteen's recommendation to the State Department of the United States. We agree to give them a certain amount if, as, and when we have a certain amount ourselves.

I also know this concerning their plan; I know that it was agreed to by all of the States, and not merely by a few of them—everyone of them, all of them.

The chairman said the other day, "What difference does it make if we decide it is to the interest of the United States to make this treaty, whether we do it by reason of comity or equity or the law or common sense?"

I would like to submit to you that neither the law nor comity nor equity nor common sense requires that result, and that neither the law nor equity nor common sense will permit it.

Senator O'MAHONEY. May I ask a few questions?

The CHAIRMAN. I think the preference should be given to Senator Murdock. The witness is from his State.

Senator O'MAHONEY. I will ask the Senator to yield to me for a minute.

Senator MURDOCK. I gladly yield to the Senator from Wyoming.

Senator O'MAHONEY. May I say, Mr. Harris, that testimony of the character which you have just given is always a great aid. I want to compliment you, in the first instance, because of the clearness and the forthrightness of your statement. It is easy to understand the position you take and the reasons you give for it.

Mr. HARRIS. Thank you, Senator.

Senator O'MAHONEY. There were two particular statements which you made which seemed to me to be of great interest and which, if developed, will clarify the area of disagreement involving this whole treaty. The first of those statements was this, as I recall, that any

allocation of water to Mexico will result in depriving citizens of the United States of the beneficial uses of that water which they could make of it; and the second statement was that Mexico cannot use any of the water without the construction of diversion works in United States territory.

Have I correctly stated it?

Mr. HARRIS. That is not my statement; that is Mr. Bishop's statement, among others.

Senator O'MAHONEY. You repeated it, did you not? Let us not argue. The most futile thing in the world, Mr. Harris, is for a cross-examiner or an examiner to argue with a witness. I am not trying to argue with you, and I hope you are not arguing with me. It does not make any difference whether Mr. Bishop or someone else said it. I am trying to develop your view in order to aid my own mind in understanding this problem. Do you take that position yourself?

Mr. HARRIS. Yes, sir.

Senator O'MAHONEY. Therefore does it not follow that if 750,000 acre-feet are allocated to Mexico, that allocation will result in depriving users in the United States of the use of that water?

Mr. HARRIS. There is no question about that. There is no question, also, that they cannot spare it.

Senator O'MAHONEY. But you are willing to make that allocation?

Mr. HARRIS. I am willing to do that; I am willing to go that far.

Senator O'MAHONEY. Then you are willing to go as far as to say that the users in the United States must be ready to surrender 750,000 acre-feet of water which they could use?

Mr. HARRIS. It is an offer that has been characterized as just and generous. It is both of those things. But I am willing to go along with what everybody has said up to now.

Senator O'MAHONEY. How much water will flow across the line into Mexico as a result of the improvements which are planned?

Mr. HARRIS. I do not know how much, but a very great deal, no doubt.

Senator O'MAHONEY. Does that mean that in any and all events more than 750,000 acre-feet will be delivered from this river to Mexico?

Mr. HARRIS. It will go down there, I have no doubt, for some time to come.

Senator O'MAHONEY. And then you came to the conclusion, and ask this committee to reach the conclusion, that all of that water, in addition to 750,000 acre-feet, which in any and all events will be delivered to Mexico, Mexico shall not be permitted to establish any right to. Is that your position?

Mr. HARRIS. I take it you make no point of the word "delivered." It will get there, no doubt.

Senator O'MAHONEY. Oh, I make no point of that; no.

Mr. HARRIS. I claim, as of course it follows beyond all else that I have said, that she may establish no right to anything in excess of 750,000 acre-feet. But I hope you will not mind my saying that that is not only my view of the thing. The Governors of all the seven States, every one of them, have at least twice asked Congress to formally declare that. The Senate of the United States was asked to declare it.

Senator O'MAHONEY. That is argumentative.

Mr. HARRIS. I agree with all of them. My point is, Senator, if you will pardon me, that I agree with what everyone has said, up to the time that this treaty was proposed.

Senator O'MAHONEY. I am trying to get the facts.

Mr. HARRIS. I would not give them a drop more, under any conditions whatever; and I regret that we have to give them that much.

Senator O'MAHONEY. Have you any idea how much additional water will go into Mexico?

Mr. HARRIS. No, sir; I have not, but I know it is a lot, a great deal more than 750,000 acre-feet. There is no doubt about that.

Senator O'MAHONEY. Is it more than 1,500,000 acre-feet?

Mr. HARRIS. It is probably that great. I would not try to speak with authority, but it is a large quantity, such that we could not afford to lose it.

Senator O'MAHONEY. I am not an engineer, and I do not know that there is an engineer on this committee, but I have been told, and the evidence seems to indicate it, that from 9,000,000 to 12,000,000 acre-feet will get to Mexico.

Mr. HARRIS. I have no doubt about it. But I do not know anything about it.

Senator O'MAHONEY. Does not this issue boil down to a determination as to whether or not we shall by treaty agree that users in the United States, who could use this water, shall sacrifice 750,000 acre-feet, which you are willing to sacrifice—

Mr. HARRIS. Not willing, but reconciled.

Senator O'MAHONEY (continuing). That you are reconciled to sacrifice—and 750,000 acre-feet in addition which other witnesses before this committee say they are reconciled to sacrifice?

Mr. HARRIS. That is what I cannot understand.

Senator O'MAHONEY. That is the point, is it not?

Mr. HARRIS. Oh, surely.

Senator O'MAHONEY. It comes right down to that.

It is also clear from your testimony that not only 1,500,000 acre-feet, but probably almost 10 times that amount will flow across the border.

Mr. HARRIS. It has been flowing that way since the beginning of time.

Senator O'MAHONEY. And will flow that way, in all probability, until the end of time, unless we divert it all into the State of California?

Mr. HARRIS. No, sir. I know that the United States Bureau of Reclamation now has plans for the use of more Colorado River water than there is in the river if we do not give Mexico a drop.

Of course you do not want to argue with me, Senator, but you have raised a point that it seems to me ought to be carried through. Some gentlemen want to give up twice as much as I do, twice as much as Utah wants to give up, twice as much as Arizona, Colorado, Nevada, and Wyoming want to give up. They say make a treaty for amount A. That is fine. We are all safe and secure. But make a treaty for amount B, and we are all up in the air. That is silly. The treaty will not help it a bit. We still have the same problem. What can we do better than what everybody has said, and that is this, that 750,000 acre-feet is just and generous. I say that if Mexico should appear here and make the argument that has actually been made here before you, for this treaty, you would regard it as impudent effrontery. And yet it is made here by American citizens, who say, "We want this

to happen." Why? There can be no more than one reason—use; arbitration.

You call attention to the fact that we have still got the same problem anyway. Is there any magic in 1,500,000 acre-feet that is going to lay the ghost of use or lay the ghost of arbitration, any more than 1,000,000 or 1,000?

Senator O'MAHONEY. Since you are asking an argumentative question, and you direct it to me—

Mr. HARRIS. Of course the answer is no. It is a rhetorical question.

Senator O'MAHONEY. No. The answer is that if the treaty is made, arbitration is eliminated.

Mr. HARRIS. Is it?

Senator O'MAHONEY. The question, as I see it, is whether or not we are willing to pay, by this extra 750,000 acre-feet, for a complete and permanent settlement of international controversies on this river.

Mr. HARRIS. Why will not a million acre-feet do it, or a thousand? Senator O'MAHONEY. That is the question, naturally.

Mr. HARRIS. Why is one figure more appropriate than another?

Senator O'MAHONEY. The figures that are brought to us in this treaty are 1,500,000 acre-feet. So my questions to you and to all other witnesses are intended merely to develop what the effect will be upon the relationship between the United States and Mexico in the utilization of the water of this river by the people of the United States under those particular figures.

Mr. HARRIS. It would be extraordinarily interesting to anybody who opposes the treaty; that is, who opposes the giving up of twice the amount, to have them say why they think that a million and a half acre-feet would dispose of the matter any better than 1,000,000, or 750,000, or 6,000. I have quoted the 14 affected, that it would not settle the question at all. I quote them exactly as I would quote an opinion of the United States Supreme Court, to a lower court. That is what Mr. Wallace says—William R. Wallace, of Salt Lake City, for whom I have a high respect.

This bogey of arbitration is a bogey on this ground, that it is assumed that we would be defeated if you do not put it on some improper ground, such as those gentlemen objected to being in the record. It must be that we would be beaten on the ground that we were not doing the square and fair thing, whereas up to this time everybody has said that 750,000 acre-feet is not merely just but is generous. We do not have to be lavish, do we? We cannot afford 750,000 acre-feet. We cannot afford a drop. But I will go up to 750,000. Why? Because everybody, up until today, has said that that is what we ought to do. But I object to doubling it; that is all.

Senator TUNNELL. If 1,500,000 acre-feet is allotted to Mexico, how soon will anybody suffer in the United States?

Mr. HARRIS. As soon as there can be put into effect the plans we already have for the development of the waters of the Colorado River; and then, again, as soon as we have a low-water period. We will suffer also from the instant we have to turn down a drop in response to it.

Senator TUNNELL. When will that be?

Mr. HARRIS. It depends. You understand that our projects in Utah and some in Colorado and elsewhere are still going on and are now

under construction. I hope it will be very quickly, because we need those waters now, badly.

Senator TUNNELL. You need the waters now, badly?

Mr. HARRIS. In my State.

Senator TUNNELL. You mean that you need to have the facilities to use those waters now?

Mr. HARRIS. Yes.

Senator TUNNELL. But you do not have them?

Mr. HARRIS. No; we have not got all of them. The company for whom I am counsel takes 30 percent of their water supply out of the Colorado River.

Senator TUNNELL. What is the company that you represent?

Mr. HARRIS. I represent the Metropolitan Water District of Salt Lake City.

Senator TUNNELL. Are they suffering?

Mr. HARRIS. Not yet.

Senator TUNNELL. In what way do you think they will suffer?

Mr. HARRIS. I know that there is the possibility that the water supply they expect to get from the Colorado River will not be available to them. It will be curtailed. I know that. Everybody admits that.

Senator TUNNELL. You mean, there will not be 1,500,000 acre-feet left?

Mr. HARRIS. We have traded that 1,500,000 acre-feet, and when you limited them——

Senator O'MAHONEY. How can you say that? Since you agreed in your own words that 9,000,000 to 12,000,000 acre-feet, from the beginning of time, have been delivered to Mexico, and will continue to get there until the end of time, how will any person in the United States suffer if by treaty we say that 1,500,000 acre-feet shall be guaranteed except in times of drought?

Mr. HARRIS. Extraordinary drought, sir.

Senator O'MAHONEY. That is what the treaty says. How will any person suffer? That is the question that I would like to have you answer and the question that Senator Tunnell would like to have you answer.

Mr. HARRIS. It would be perfectly ridiculous for me to be here at all or for any of us to be here if that question is not answered, but I take it that you will not take it amiss that I apprehend the purport of it. We will never suffer at all in the United States if the United States and the seven States of the Colorado River system are done, finished, and through. That is the answer.

Senator O'MAHONEY. Done, finished, and through?

Mr. HARRIS. Yes; if we are through, if we stop, quit, give up; if we do not want to do anything else; if we do not want to put any more arable lands in any one of the seven basin States under irrigation and cultivation and create permanent homesteads for people to live on the land and produce for us. We could not really do anything.

Senator O'MAHONEY. I confess, Mr. Chairman, that I cannot understand the argument of the witness.

Mr. HARRIS. What is there that is difficult to understand about that?

Senator O'MAHONEY. It is clear from your testimony that 9,000,000 to 12,000,000 acre-feet will continue to be delivered to Mexico through all time?

Mr. HARRIS. It will go down the river.

Senator O'MAHONEY. It is also clear from the testimony here that the construction of improvements upon the stream will increase the storage?

Mr. HARRIS. Sure.

Senator O'MAHONEY. By equalizing the flow of the river, and therefore will retain and prevent the wastage of huge quantities of water. Now, since that is the fact, and those stored waters can be used to irrigate lands in the United States to the complete extent of the storage and since it follows from what you have testified that, regardless of that use, 9,000,000 to 12,000,000 acre-feet will flow across the boundary, how can anybody suffer when we say to Mexico that she shall have 1,500,000 acre-feet?

Mr. HARRIS. You seem to regard that as important.

Senator O'MAHONEY. Of course it is important. It is the very heart of this controversy; and it seems to me that your whole argument is based upon the contention of legalistic rights to the use of water.

Mr. HARRIS. I have not said a word about legalistic rights. I have quoted Mr. Bishop of Wyoming—

Senator O'MAHONEY. Mr. Harris, it makes no difference what Mr. Bishop said.

Mr. HARRIS. Doesn't it?

Senator O'MAHONEY. Nor what anybody else said. That is not the point. The point is to determine what the facts are.

Mr. HARRIS. The facts are these, sir. Your question would be precisely the same, and just as pointed and no more so, if the proposal were to give Mexico 2,000,000 acre-feet.

Senator O'MAHONEY. Of course it would be. I agree with you that it would be exactly the same. But it just happens that those who negotiated the treaty did not give them 2,000,000 acre-feet, or 5,000,000 or 6,000,000; they gave them only 1½ million acre-feet.

Mr. HARRIS. Your question would be just the same, whatever the figure was.

Senator O'MAHONEY. In principle, certainly.

Mr. HARRIS. We could use all the waters in the United States of America. We need them for the development of Wyoming and Utah. Let anybody from Wyoming or Utah say that they do not need them.

Senator WILEY. Is not this the gist of the matter that until you get to the point where you develop these lands you have 9,000,000 acre-feet going down, but when you develop them you probably will need the 9,000,000 acre-feet in the United States? And, furthermore, the evidence seems to be clear to me that at times in a drought period there is a question whether even 750,000 acre-feet should be diverted.

So, can we not get an understanding on that, Senator O'Mahoney?

Mr. HARRIS. Of course, we do not need it now.

Senator WILEY. In other words, they do not need the 9,000,000 acre-feet which go down now in normal flow when the weather is good, but if and when California and the other States develop the arid lands, in other words, put the water on the acre in America instead of the acre in Mexico, there is very serious question of whether there will be the 750,000 acre-feet that go down into Mexico.

Senator O'MAHONEY. That was precisely the question I asked the witness, and his answer was that for all time to come there would be the delivery of this water.

Mr. HARRIS. Oh, no, Senator. I am not insane.

Senator WILEY. I think you probably scared him a little bit.

Senator O'MAHONEY. I think that the members of the committee, and the other Senators, should be scared, but not the witness.

Mr. HARRIS. The proponents of the treaty want us to have flowing down a million five hundred thousand acre-feet, but we do not want it to be any more than half of that. We want to use the rest in the United States.

Senator O'MAHONEY. Do you say that use in the United States will ultimately reduce the amount of water that gets there, below $1\frac{1}{2}$ acre-feet?

Mr. HARRIS. I say it and everybody says it.

Senator O'MAHONEY. Certainly this is the first time you have said it this morning in response to my question.

Mr. HARRIS. I have quoted 14 people, preeminent authorities, that say it, and I say it over and over again, myself. We want to use that in my State, not in Mexico. If we cannot use it in the upper basin States, if the time shall ever come when the upper basin States on the Colorado cannot use all their allotment under the Colorado River compact, plus a part of the unapportioned surplus, I would like to see it go to Arizona, New Mexico, and California. If they cannot use it, let it go down to Mexico. But that time has not yet come, and I do not think any representative of any State will say to you gentlemen here, "The waters of the Colorado to which we are entitled, if we do not give Mexico a drop, are too much for us." Not one of them will say that.

Senator TUNNELL. I was asking you some questions. I would like to know if you think that Mexico has any right to any water now.

Mr. HARRIS. No, sir.

Senator TUNNELL. You said you did not want rights established, as I understood your words. Does Mexico have any right at this time to any water?

Mr. HARRIS. Only in the sense that one person has the right as against another person to say, "I will deal generously with you."

Senator TUNNELL. That is sometimes pretty good.

Senator WILEY. Comity or international law?

Mr. HARRIS. No; I do not think there is any comity about that. I remember that Mr. Shaw was questioned here yesterday and he said that our obligation, such as it may be or however it may be characterized, was not the subject of arbitration. I cannot submit my conscience to arbitration.

Senator TUNNELL. How do you arbitrarily say that it is not subject to arbitration—that Mexico is entitled to 750,000 acre-feet but not entitled to 1,500,000. How is the dividing line established?

Mr. HARRIS. That is easy. I do not say that they are entitled to anything. I say that to be just and generous with them we would give them a maximum of 750,000. Where do we get that 750,000?

Senator TUNNELL. It is 5 percent or $2\frac{1}{2}$ percent—

Mr. HARRIS. No; that is not it. During the year 1928 an American corporation diverted into Mexico, for the use of a Mexican corporation owned by United States citizens, 750,000 acre-feet of water. Mexico, of course, would like to have all the waters of the Colorado River.

Senator TUNNELL. They could not use all that, could they?

Mr. HARRIS. I think they could.

Senator TUNNELL. That has not been the testimony.

Mr. HARRIS. If they had the use of American facilities—I do not know how much land they have—they could probably use a lot more than 750,000 acre-feet.

Senator TUNNELL. I understand the testimony to be 5,000,000 or 6,000,000 acre-feet.

Mr. HARRIS. Perhaps it is 5,000,000 or 6,000,000 acre-feet, Senator. The only way we got the 750,000 was that an American corporation diverted, during the year 1928, 750,000 acre-feet for the benefit of a Mexican corporation owned by American citizens. That is why we arrived at it; and since we want to be both just and generous to them, the United States commission that was required to report on this matter, and the head of which was the first Commissioner of Reclamation, that great man, Elwood Mead, offered them 750,000 acre-feet, and he described it, and everybody since then has described it, as just and generous.

Senator TUNNELL. That is a matter that people might differ on.

Mr. HARRIS. No, sir.

Senator TUNNELL. I know you do not think so, but do you not believe that other people might differ with that statement?

Mr. HARRIS. I have not come across them up until this time. There has been an absolute unanimity of opinion up until this time.

Senator TUNNELL. There has not been with the witnesses who have testified before you.

Mr. HARRIS. I meant, up to this treaty there has been a unanimity of opinion.

Senator TUNNELL. I would gather from your testimony that you do not think there is any room for anybody to disagree with you. But some have disagreed with you.

Mr. HARRIS. I know the law by reading decisions. I know the facts concerning the Colorado River by reading the opinions and the testimony of those whose business it has been for many years as representatives of their States and as representatives of the United States to know it. I read what they say. I know what they say. I have quoted them here. I believe what they say. I quote them just as exactly as I would quote an opinion of the Supreme Court of the United States.

Senator TUNNELL. Apparently you do not believe anything that the other witnesses have said.

Mr. HARRIS. I have read the testimony before this committee, and I have read testimony to the effect that if we do not do this, arbitration will enforce it against us. That is not so. It cannot be so.

Senator TUNNELL. I say, you do not believe what the witnesses have said here, but you do believe something that you have read in the past.

Mr. HARRIS. I do not believe those things. I am not bound to believe things which are purely matters of opinion.

Senator TUNNELL. Is not that what you are giving, largely?

Mr. HARRIS. I am giving the result, and I am quoting what authorities on the subject have said.

Senator TUNNELL. That was their opinion, was it not?

Mr. HARRIS. No; not all of it. It was their statement of fact. For instance, when they say [reading]:

Not only must Mexico look to the United States for protection against floods and silt, such as has been provided by Boulder Dam, but she also must look to

the United States for any firm water which she receives from the Colorado River, and for facilities by which that water can be diverted from the river—

That is a conclusion of fact.

Senator TUNNELL. I have no further questions.

Senator McFARLAND. I have just two or three questions, Mr. Chairman.

Mr. HARRIS, Senator Tunnell asked you when we would be hurt by signing this Mexican treaty and allowing 1,500,000 acre-feet to go down to Mexico. We want to make plans for the development of the Colorado River now. I think you will agree that we would be hurt right now, because we could not make plans for development involving the water which we have signed away. Is not that right?

Mr. HARRIS. You could not make plans; that is certainly true.

Senator McFARLAND. So, the time is right now?

Mr. HARRIS. Yes; in that sense.

Senator McFARLAND. You can never set a time for the use of water which you cannot use?

Mr. HARRIS. No; of course not.

Senator McFARLAND. So it has to be now?

Mr. HARRIS. Right this minute. There is no doubt about that.

Senator McFARLAND. You and I can agree on that, then?

Mr. HARRIS. The other side's plans are the converse of that.

Senator McFARLAND. I want to ask you if you agree with this, that we cannot make definite plans for the full development of the Colorado River until this question is settled one way or the other, until we know how much water we are going to let Mexico have. Is not that true?

Mr. HARRIS. It has not stopped any developments so far.

Senator McFARLAND. I asked you, though, this question: We cannot make full plans until we know how much water we will have?

Mr. HARRIS. We know what we have. We know it right now.

The CHAIRMAN. Why do you not answer the question?

Senator McFARLAND. If we know it, we can make the plans. But I do not see how you can say that, when we have a treaty which is pending which would give Mexico 1,500,000 acre-feet. Until we know whether that treaty is going to be ratified or not, we cannot know the answer to it, can we?

Mr. HARRIS. We can make plans up to that.

Senator McFARLAND. Up to 1,500,000 acre-feet?

Mr. HARRIS. Up to 750,000 acre-feet.

Senator McFARLAND. Would we be safe in believing that that would be the figure that would be eventually arrived at?

Mr. HARRIS. Who can threaten us? There is nobody that can threaten us.

Senator McFARLAND. Of course you and I could not come to an agreement, but I thought you could agree with me to this extent, that it is so important that it has to be determined on some figure.

Mr. HARRIS. I would say we ought to make a treaty.

Senator McFARLAND. And the sooner it is made the sooner we can make our plans?

Mr. HARRIS. We can make our plans now, because the whole thing is within our own control.

Senator McFARLAND. I will not pursue it any further.

Mr. HARRIS. I might say, what plans can I make with a thousand dollars that I own when I do not know how much I am going to give away?

The CHAIRMAN. The Senator does not care to ask you any more questions.

Senator MILLIKIN.

Senator MILLIKIN. Mr. Harris, you will admit that there is an expanding use of water in Mexico; will you not?

Mr. HARRIS. I understand that they would like to use more water.

Senator MILLIKIN. Do you understand that there has been an expanding use?

Mr. HARRIS. There has been an increase.

Senator MILLIKIN. You understand that they have more land available on which they could put more water?

Mr. HARRIS. Yes.

Senator MILLIKIN. And if we do not make this treaty, as time goes on they will expand their uses, as they can?

Mr. HARRIS. Or if we do make the treaty, too.

Senator MILLIKIN. I assume that will be developed. I do not see, if we give them $1\frac{1}{2}$ acre-feet and give them no more, how they can expand except on surplus which we voluntarily deliver to them.

Mr. HARRIS. It will flow down the river until they use it. The treaty is not going to stop water from flowing down the river.

Senator MILLIKIN. You admit that perhaps 8,000,000 or 9,000,000 acre-feet are flowing down the river now?

Mr. HARRIS. It is a large quantity; I do not know the quantity.

Senator MILLIKIN. So there is plenty of water at the present time, except in periods of extreme drought, when they can expand their use of water in Mexico?

Mr. HARRIS. They are physically able to, if we give them the use of American facilities. The American facilities are there. We do not have to let them use them if we do not want to.

Senator MILLIKIN. How can we stop water from flowing into Mexico?

Mr. HARRIS. They have no diversion works down in Mexico. They have tried time and time again, and failed.

Senator MILLIKIN. Can they not open the river just south of the Alamo Canal, just as we have opened the Alamo Canal?

Mr. HARRIS. I have quoted the opinion of the 14 water authorities on the Colorado River to the effect that they cannot.

Senator MILLIKIN. But they are using 1,800,000 acre-feet of water right now.

Mr. HARRIS. There has been some water diverted to them through American facilities. That we can stop anytime we please; and if we do not use our facilities to give water to them, they cannot use any water at all, from what the 14 authorities say.

Senator MILLIKIN. What will happen to the water if they are not able to use it?

Mr. HARRIS. It will flow into the Gulf of California.

Senator MILLIKIN. It would flow to Mexico, would it not?

Mr. HARRIS. It would flow to the Gulf of California by way of Mexico, as it now flows through the Grand Canyon of the Colorado.

Senator MILLIKIN. So they would have the opportunity to extend

the water to an expanding amount of acreage. You cannot bottle the water up in the United States.

Mr. HARRIS. It is bottled up by nature.

Senator MILLIKIN. Let us put our minds exclusively on the upper basin for a moment. Under the compact we are entitled to $7\frac{1}{2}$ million acre-feet?

Mr. HARRIS. Yes, sir.

Senator MILLIKIN. How much are we using at the present time?

Mr. HARRIS. Nobody knows.

Senator MILLIKIN. If I were to suggest that we are using about $2\frac{1}{2}$ million acre-feet, would you seriously resist that?

Mr. HARRIS. I would not say that that was an accurate figure.

Senator MILLIKIN. Will you accept it for the purposes of this discussion?

Mr. HARRIS. Yes.

Senator MILLIKIN. So we have 5,000,000 acre-feet ahead of us to use ourselves under the compact; is that right?

Mr. HARRIS. Yes, sir.

Senator MILLIKIN. When we are talking about allocations to Mexico of $1\frac{1}{2}$ million feet—and I am speaking especially of the 750,000 acre-feet which you put in controversy which, under your own testimony, is the only thing we need to consider—we are talking about something rather far removed into the future. But I do not criticize that approach at all, because it is our duty to look into the future.

Mr. HARRIS. Yes; to be sure.

Senator MILLIKIN. And I am about to look into the future. In order to get our $7\frac{1}{2}$ million acre-feet we have got to build a great series of works in the upper basin, have we not?

Mr. HARRIS. Yes, sir.

Senator MILLIKIN. Would anyone be justified in building those works prior to a settlement with Mexico?

Mr. HARRIS. Yes.

Senator MILLIKIN. What is your theory on that?

Mr. HARRIS. Mexico cannot take water away from the States of Utah, Wyoming, and Colorado. We have it ourselves and will let it down as we want it.

Senator MILLIKIN. We cannot control it until we have the very facilities that I am talking about; and we have not got them.

Mr. HARRIS. I would go ahead and build them, then. There are plans and specifications now for their construction.

Senator MILLIKIN. That assumes that Mexico cannot raise an arbitration question, does it not?

Mr. HARRIS. Yes.

Senator MILLIKIN. And it also assumes that an arbitration decision would be in accord with your views, does it not?

Mr. HARRIS. Not my views alone, of course.

Senator MILLIKIN. Yours and your associates' belief. That is correct, is it not?

Mr. HARRIS. Yes.

Senator MILLIKIN. So that whether we build works in the upper basin to conserve our own waters depends upon two things: First, that there will be an arbitration; second, that the arbitration board would say that we have the right to the use of all the water?

Mr. HARRIS. If you admit that the matter is the subject of arbitration, you have got to admit the possibility that they will want every drop and the waters that we are now using as well.

Senator MILLIKIN. That is a complete answer to what I hoped to develop in the testimony. We will have to engage in spending tens of millions of dollars in the upper basin building works to conserve the full amount of water we are entitled to under the compact, when an arbitration commission might, under your testimony, take all of our water away from us.

Mr. HARRIS. My testimony is that an arbitration commission cannot. We would never be so silly as to submit the question to arbitration.

Senator MILLIKIN. The testimony is that we have promised to submit ourselves to arbitration on such questions.

Mr. HARRIS. Under what treaty? Under what obligation?

Senator MILLIKIN. Well, one of the lawyers here, who is familiar—

Mr. HARRIS. There is a treaty of 1929. I know what that says, and it does not say that we will submit the amount of the national debt for the war expenditures of the United States to a board of arbitration.

Senator MILLIKIN. That is not in our discussion at all.

Mr. HARRIS (continuing). Or the disposition of the natural resources of the United States to arbitration.

Senator MILLIKIN. Does it name the arbitral subjects?

Mr. HARRIS. No.

Senator MILLIKIN. Then it leaves it open, does it not?

Mr. HARRIS. No, sir; not necessarily. That does not necessarily follow.

Senator MILLIKIN. If it leaves it to the general subject of arbitration, what is excluded?

Mr. HARRIS. Those things which the Senators of the United States of America feel bound to say is their business and not the business of any other nation.

Senator MILLIKIN. May I suggest to you that the Senators of the United States cannot stop the rivers from flowing across to Mexico.

Mr. HARRIS. I am discussing the subject of arbitration.

Senator MILLIKIN. That is what is involved in the arbitration.

Mr. HARRIS. No one is going to stop it until we have the benefit of those works.

Senator MILLIKIN. What your proposal comes to is that in view of the fact that we will probably be called into arbitration—

Mr. HARRIS. No, sir; I cannot see that.

Senator MILLIKIN. Wait. Or suffer an increasing aggravation of the problem through increasing use in Mexico which might call upon us, through international friction, to ask for an arbitration even though we were not required to give it.

Mr. HARRIS. That is not my position.

Senator MILLIKIN. The end point of your argument comes to the fact that you would not build the works in the upper basin, which we have to build in order to conserve our own water, because an arbitration treaty—

Mr. HARRIS. No. You say I claim that. I say the contrary, just exactly the opposite of that.

Senator MILLIKIN. All right. You say we do not have to arbitrate?

Mr. HARRIS. Yes.

Senator MILLIKIN. We have had lots of testimony here to the effect that we do. Now, let us assume, for the purposes of discussion, that we could be called into an arbitration.

Mr. HARRIS. Assuming it for the purpose of discussion. It is difficult, but I will do it.

Senator MILLIKIN. Let us assume, for the purpose of discussion only, that we could be called into an arbitration. Are you in position to say to the upper States that only 750,000 acre-feet or a lesser amount or a greater amount would be awarded to Mexico?

Mr. HARRIS. I will say that no more than 750,000 acre-feet can be awarded with any semblance of justice.

Senator MILLIKIN. But you will agree that an arbitration commission, in view of the wide difference of opinion that is in this room, might find otherwise, will you not?

Mr. HARRIS. No, sir; I do not believe there is anybody in this room that would.

Senator MILLIKIN. Do you put yourself in the position of being a prophet as to what an arbitration commission might find in this matter?

Mr. HARRIS. I do not believe there is a person in this room that—

The CHAIRMAN. That would be on the arbitration commission?

Mr. HARRIS. No, sir. I do not think there is a person in this room that will admit of the possibility. I do not think they would have the temerity to suggest it here, no matter what they say in the hall, or that will admit of the possibility that the Senate of the United States would submit the disposition of a natural resource of America to arbitration. I do not think there is one of them here in the room, Senators or audience.

Senator MILLIKIN. I am perfectly willing to answer your question.

Mr. HARRIS. I did not ask a question.

Senator MILLIKIN. You have made the statement that no one in the room would admit that. If we are obligated to put it in a treaty, if it will stabilize our interests, I am perfectly willing that we do it. So you have one that is willing.

Mr. HARRIS. There are too many "if's" in your statement.

Senator MILLIKIN. Not nearly as many as the "if's" in your statement.

Now, let us get back to the question again. We assume that there might be an arbitration?

Mr. HARRIS. You do; I don't.

Senator MILLIKIN. I asked you to assume it for the purpose of the discussion. I ask you whether you could guarantee what the result of the arbitration would be—and of course I will answer for you, Mr. Harris, that you cannot.

Mr. HARRIS. I appreciate that.

Senator MILLIKIN. Assuming, again, that we might have an arbitration; assuming for the purposes of discussion that the result is entirely up in the air, every day that goes by are we not confronted with expanding uses in Mexico and an expanding claim of right, if you wish to put it that way, or an inevitable arbitration, if you wish to put it that way, so that every day, on that assumption, our jeopardy might increase, and in the meantime in the upper basin we have the

problem of getting our facilities constructed to save all of our water. And I respectfully suggest to you, and I would like to have your opinion if you differ with me, that we cannot build facilities on that kind of a speculation.

Mr. HARRIS. Of course I cannot accept your assumptions, Senator.

Senator MILLIKIN. Then you go along with me except for the assumption that there might be an arbitration?

Mr. HARRIS. No, sir. I would like to tell you why—because I agree with Mr. W. R. Wallace, of Utah, and Mr. Davis, of Arizona. I agree with them perfectly, and I adopt their opinion as my own, that we would have the same problem in any event, because, as I said, is there anybody so naive as to suppose that the mere fact of a treaty would prevent Mexico from using waters outside of the treaty when she has hundreds of thousands of acres of land to use them on? I think not. You have got the same problem in any event. So here is what the argument amounts to, and I have said it before. We must have a treaty to prevent this result which I have told you cannot occur, because Mexico has no facilities of diversion; or we must make a treaty because the treaty will state how much Mexico is entitled to have.

But those very same persons say that those waters will be used by Mexico on her land. In other words, treaty or no treaty, Mexican use is something that we are going to be confronted with, and so let us make a treaty.

If just that statement does not close the argument, then I cannot do it.

Senator MILLIKIN. It may be. I do not say it is true that the language of this treaty does not fix Mexico's rights, but surely there is language that could fix her rights. So I refuse to admit that we have reached such a state of mental bankruptcy that we cannot define what are the water rights of two sovereignties. Let us assume the worst condition that you can imagine as to the 750,000 acre-feet.

Mr. HARRIS. The worst one I can imagine?

Senator MILLIKIN. In the upper basin we would have to contribute 375,000 acre-feet, would we not?

Mr. HARRIS. You would have to contribute half of it, whatever it was.

Senator MILLIKIN. At the present time we are using 2,500,000 acre-feet in the upper basin. Assume that figure, and if I am badly wrong I shall be delighted to be corrected.

Mr. HARRIS. I do not think you are.

Senator MILLIKIN. We have 5,000,000 acre-feet which we can develop if we have stability and assurance that we will not meet extraordinary demands from factors beyond our control.

Mr. HARRIS. No, sir; we have not.

Senator MILLIKIN. What we are doing, then, is this: We are risking as to this controversial 750,000 acre-feet 350,000 acre-feet in the upper basin which might be called upon necessarily in periods of extreme drought mitigated by the works we are talking about in the upper basin, in order to have the assurance of putting 5,000,000 acre-feet in the upper basin when we can do it. Is that a bad risk?

Mr. HARRIS. There are an awful lot of questions and assumptions in your statement.

Senator MILLIKIN. I challenge you to take them one by one and answer them.

Mr. HARRIS. I would like to respond. You assume the use of 2,600,000 acre-feet—

Senator MILLIKIN. I said 5,000,000.

Mr. HARRIS. All right. You cannot assume that, because it is not so. We have not that much available.

Senator MILLIKIN. Are you speaking in terms of average or in terms of drought?

Mr. HARRIS. I am talking as a result of experience in the last 20 years.

Senator MILLIKIN. I asked you a very forthright question. Are you speaking in terms of drought years or in terms of average?

Mr. HARRIS. There, again, you have got a matter of definition. Do you call the years from 1930 to 1940 drought years?

Senator MILLIKIN. Put your own handle on it.

Mr. HARRIS. There are years when there has not been available to the upper basin the full allotment under the Colorado River compact. That is still continuing. How long it will continue, God knows; no one else knows.

Senator MILLIKIN. Would you say, for an average figure, that we do not have the potentiality of developing 7,500,000 acre-feet of water in the upper basin?

Mr. HARRIS. I hope you will pardon my answering your question by a question. Do you know of any possibly worse mistake that water-planners can make than planning their water supplies on averages?

Senator MILLIKIN. I did not say they are doing that; so, will you answer my question?

Mr. HARRIS. You use the word "average," but it doesn't mean anything.

Senator MILLIKIN. Will you answer my question if you can?

Mr. HARRIS. You have asked me 10 questions in one. I don't know what your question is.

Senator MILLIKIN. You do not know what the average flow of the Colorado River is over a 12-year period, a 30-year period, or a 40-year period?

Mr. HARRIS. I know what it was in 1930. At what point, sir?

Senator MILLIKIN. Make it at Lee Ferry.

Mr. HARRIS. It was 15,000,000 in 1930, about.

Senator MILLIKIN. That takes care of the upper and lower basin.

Mr. HARRIS. What happened after that? It went down and down and down.

Senator MILLIKIN. Yes; but what did it do before that?

Mr. HARRIS. It still left a deficit. How long it will continue I do not know.

Senator MILLIKIN. Will you give me, tomorrow, your own figure on what we will be able to develop in the upper basin? Give me your own conception of it.

Mr. HARRIS. I would say that the States of the upper basin still cannot spare a drop of water, and I base that on known plans for the use of all that water. How much will they have available after making good their guaranty? All one can possibly say in regard to that, and

not be silly, is based on experience, and the experience is that we have not got available the 5,000,000 acre-feet of your hypothesis.

The CHAIRMAN. Senator Millikin, will you be available at 2:30? Senator MILLIKIN. Yes.

The CHAIRMAN. I think, if it is agreeable to the other members of the committee, we will stand in recess until 2:30.

(Whereupon, at 1:10 p. m., a recess was taken until 2:30 p. m. of the same day.)

AFTERNOON SESSION

The committee reconvened at 2:30 p. m., upon the expiration of the recess.

The CHAIRMAN. Let the committee come to order.

Senator Millikin, you may proceed with the examination.

Senator MILLIKIN. Before lunch the witness and I developed the fact that there is a certain amount of water which is crossing the border into Mexico. Could we agree on that figure at the present time?

The CHAIRMAN. There is difficulty in hearing you, Senator. I wonder if you would move to this side of the table.

Senator MILLIKIN. Before lunch we developed the fact, that has been frequently brought out during the hearing, that there is an amount of water that does cross into Mexico, and I think we have said the figure is, roughly, 8,000,000 acre-feet, or something of that kind.

Mr. HARRIS. I am willing to accept it as a hypothesis, not a statement of fact.

Senator MILLIKIN. We agreed that Mexico has been making an expanding use of Colorado River water and that she has the land to make further expanding uses if she has the water.

The witness refused to concede that there might be an arbitration, and I believe he felt that if there should be an arbitration, under no circumstances would the arbitration decision give Mexico more water than the 750,000 acre-feet, which amount, as the witness says, is probably just and equitable.

Then we brought our attention to the situation in the upper basin, because Colorado and Utah are very much interested in that. It was developed that before we can make maximum use of the water we are entitled to under the compact in the upper basin, we will have to have a large series of reservoirs. I do not know whether it was developed with the witness, but I believe the witness would readily say that the presence of those reservoirs, if and when we have them, will have a flattening effect on the droughts and will tend to equalize the flow of water and, if they have sufficient storage capacity, might almost mitigate completely the effect of drought.

It was developed that, at least, there is a fear among some of the people in the upper basin States that we cannot have the reservoir development necessary to assume the use of the allocation of water that was made to us under the compact unless we do have the reservoirs, and that we cannot get the reservoirs unless the possibility of a Mexican claim for the waters, which she might be successful in asserting in an arbitration, is disposed of. The witness would not concede that there was a right to arbitration, but for the purpose of discussion he was willing to assume that there might be an arbitration.

At the close of the morning hearing we were discussing the amount of water which the upper basin produces and the average in drought periods.

I will now ask you, Mr. Harris, whether, if under the compact there were a shortage of water, and a deficiency had to be made good to Mexico, the upper basin would share in equal part with the lower basin in making good that deficiency.

Mr. HARRIS. I think the understanding is that they would share equally in making good the deficiency.

Senator MILLIKIN. So far as the controversial 750,000 acre-feet are concerned, that would mean roughly 375,000 acre-feet for the upper basin and 375,000 acre-feet for the lower basin?

Mr. HARRIS. You are assuming total deficiency?

Senator MILLIKIN. That is right.

Mr. HARRIS. That is a matter of arithmetic.

Senator MILLIKIN. Exactly. That is the maximum liability of the upper basin, so far as the deficiency is concerned?

Mr. HARRIS. So far as that deficiency is concerned.

Senator MILLIKIN. So, in order to secure stability in the upper basin States, the question before the upper States is whether they shall agree to that possible liability of 375,000 acre-feet. Do you agree with me on that, or on my hypothesis in which we have been indulging?

Mr. HARRIS. The mathematics agree with you, Senator; not I.

Senator MILLIKIN. Of course, that maximum would occur rarely. Will you agree with me on that?

Mr. HARRIS. No, sir. I know that it would not occur rarely, because I know the history of the water shortages in the upper basin. I know that there are not yearly water shortages and years of plenty. I know that there are cycles. I know that nature has not a habit of cooperating with human beings. I know that surpluses come down when the reservoirs are full, causing spill-overs. I know that you cannot stop farming for a couple of years and then take it up again. I know that you cannot make water plans or plans for municipal uses on an average.

Senator MILLIKIN. Do you agree with me that when we reach this point of full development of whatever water we have in the upper basin and are entitled to under the compact, we will then have maximum development of the reservoirs, which will give us storage and enable us to make good our 10-year allocations to the lower basin?

Mr. HARRIS. That will help.

Senator MILLIKIN. And to that extent there will be no risk?

Mr. HARRIS. To what extent, Senator?

Senator MILLIKIN. Well, if our reservoirs in the upper basin States enable us to store water to make good the deficiencies of lean years—if our reservoirs are equal to that task—then we have no real drought problem?

Mr. HARRIS. That is to say, if the reservoirs are equal to the task, they are equal to the task.

Senator MILLIKIN. Yes; and it will be our purpose to build reservoirs that will store water and enable us to make good our obligation?

Mr. HARRIS. Of course, that will be our purpose.

Senator MILLIKIN. If we achieve the purpose, we have made good use of our water; if not, we will lose water to the lower basin?

Mr. HARRIS. We will lose water to the lower basin, undoubtedly.

Senator MILLIKIN. It is possible, so far as the upper basin States are concerned, to have that objective of building reservoirs that will assure to them the water which the compact allots to the upper basin States?

Mr. HARRIS. They will get all the projects, I assume, that nature will permit.

Let me add this, if I may. The water-supply plans of the upper basin and the lower basin must be based on the assumption that the water supply will be the low water supply and not the high one.

Senator MILLIKIN. All right. For the purpose of the discussion, take the assumption. That is why we are going to build reservoirs: to catch the fat in fat years to make good the lean in the lean years?

Mr. HARRIS. Yes.

Senator MILLIKIN. And there will be reservoirs to produce what we are obligated to produce for ourselves and for the lower basin?

Mr. HARRIS. To some extent it can be done.

Senator MILLIKIN. Then, to the extent that we do that, that 350,000 acre-feet risk is reduced?

Mr. HARRIS. To that extent.

Senator MILLIKIN. Under some theories it may be eliminated entirely?

Mr. HARRIS. Under some theories, yes, sir.

Senator MILLIKIN. But it would be eliminated to some extent under any reasonably adequate reservoir project, would it not?

Mr. HARRIS. Yes, sir; and therefore, I would say this, if you will pardon me: Let us build such large reservoirs that gentlemen can come here before the Senate committee and advocate an allocation to Mexico of 5,000,000 acre-feet. Let us build them that large. Let us do that.

Senator MILLIKIN. I do not intend to introduce any facetious note into this, if I can avoid it.

Mr. HARRIS. That is not facetious.

Senator MILLIKIN. My intention is to protect the upper basin and yet have an increased supply to the lower basin. So let us keep on the bull's-eye.

Mr. HARRIS. We had better build reservoirs for that one obligation, and I would say that is tough enough without adding another basin which we have got to guarantee below that.

Senator MILLIKIN. From the examination we have just gone through, it has developed that if we build reservoirs to protect the upper basin, we will be able to make good any liability to the lower basin and to Mexico without injury to ourselves under the compact.

Mr. HARRIS. Is that the testimony, sir?

Senator MILLIKIN. That is the purport of the testimony.

Mr. HARRIS. It is not the purport of my testimony.

Senator MILLIKIN. With this exception: You said we might not be able to eliminate completely the hazard of having to put up 375,000 acre-feet, so I agreed with you that somewhere between 375,000 acre-feet and nothing was the hazard.

Now, let me get to the next point. That hazard, ranging from, let us say, nothing up to 375,000 acre-feet in a bad year, if our reservoir capacity does not protect us, enables us to get reservoirs which we need to protect ourselves and which we need to protect the lower basin,

out of which we can make good any commitment that is made by treaty to Mexico. Would you disagree with that?

Mr. HARRIS. I am bound to agree that if we are not hurt, we are not hurt.

Senator WILEY. The point, may I interject, that the Senator has made, and one in which I am interested, after listening to this discussion, is that if we make this treaty with Mexico, that means that the upper basin, as a natural result, is going to get these reservoirs built to equalize the water.

Mr. HARRIS. Do you mean that that is dependent upon the treaty with Mexico?

Senator WILEY. Yes.

Mr. HARRIS. Is that so?

Senator WILEY. I do not know. I am just asking. That is substantially the question that was just asked. In other words, if you do not get the treaty, will you get the reservoirs?

Mr. HARRIS. Why, of course. We have post-war plans, and we had plans prior to the war, to develop the waters of the Colorado River in the upper basin and the lower basin to the fullest extent. We would like to use those waters without giving a drop to Mexico.

Senator WILEY. I understand that, but let me see if I cannot make myself clear.

Mr. HARRIS. I think you did.

Senator WILEY. The point that influenced me this morning and is influencing me now is that I want to know what the fact is if this treaty becomes the law of the land. Will it ipso facto, or otherwise, result in getting the reservoirs?

Mr. HARRIS. I think we will get them in any event. I think there is no connection between them—no connection whatever.

Senator WILEY. I wanted to know what your opinion was.

Mr. HARRIS. We have already spent a billion dollars on the different projects without having a treaty, and we will continue to spend billions more, treaty or no treaty. A treaty will not solve any problem we have.

Senator WILEY. Your answer is that the treaty itself will have no relation to your getting reservoirs?

Mr. HARRIS. None whatever. As a matter of past experience, the lack of a treaty has not prevented anything.

Let me pursue that one step further. I said, to start out my discussion this morning, that we are urged here as to the desirability of a treaty on this subject. I think it is desirable that we have a treaty for this reason. As the Committee of Fourteen says, it is desirable to have a treaty because Mexico needs one, not because we need one. It is because Mexico needs one. That is why I would not give them a treaty. There is another reason, still further remote, that there is desirability of a treaty. What in the world does that have to do with the question as to this treaty? We have only one question before us here—the desirability of this treaty; and this treaty sells us down the river. It gives away twice as much as anybody prior to these discussions has ever proposed.

Senator WILEY. Pardon me for interrupting, but I wanted to get your answer to that question. It was not definite in my own mind.

Mr. HARRIS. If there is any relation between a treaty—not this treaty, but a treaty—and the rest of it——

Senator MILLIKIN. Mr. Chairman, in the exchanges between the witness and myself, I was developing that in order for the upper basin States to make good and get the use of the allocation that is made to them under the Colorado River compact, they have got to have a series of reservoirs up there; that that series of reservoirs will iron out the drought cycles; and that by reason of that very fact we will get water that we are supposed to have and will be able to deliver water to the lower basin and be able to make good any commitment we may make to Mexico.

Senator JOHNSON of California. What was the cost of those reservoirs?

Senator MILLIKIN. I do not know, Senator; but the testimony here is that as water becomes scarcer, the costs in California will not be an item to be considered, and I am assuming that the same will be true in the upper basin States.

Senator JOHNSON of California. That is the actual cost of the additional improvements that you put in the river?

Senator MILLIKIN. Yes, sir. There was quite a little testimony here from California witnesses that as time goes on every drop of water will be used; and I certainly would not dispute that. When the question of costs came up, the inference from the testimony was that that use would result no matter what the cost. It might be many times more per acre-foot than it is at the present time.

There was testimony as to the lining of canals. There was testimony as to the elaborate pumping projects. There was testimony as to getting water onto lands that at the present time we would not for one moment think of irrigating.

I am carrying that some assumption over to the upper basin. We will have to build reservoirs, unless we want to lose water. I have got to go on the assumption, Senator, that the upper-basin States will not lose water but that if they do lose water the lower-basin States will be benefited.

The CHAIRMAN. Are there any other questions?

Senator MILLIKIN. I have no more questions.

Senator WILEY. May I ask a question of the Senator? I want to get a matter clear in my mind.

Senator MILLIKIN. Certainly.

Senator WILEY. I think your explanation has clarified part of the question. Is it your position that the making of the treaty is going to result in the construction of these reservoirs?

Senator MILLIKIN. No; that is not my position.

Senator WILEY. So there is no connection between the treaty and whether or not you get reservoirs?

Senator MILLIKIN. You have put a thought in my head, Senator; I had not thought of that.

Senator WILEY. Well, I got that from your words. I do not want to put words in your head.

Senator MILLIKIN. No; I am making no contention that the treaty will get us reservoirs, but I would say that if the treaty will get us reservoirs, under the present terms of the treaty, it would be the most advantageous thing for this country and for the upper and lower basin States that could possibly be conceived.

The CHAIRMAN. On that point, it was part of your thought that with the treaty limiting the amount of water to Mexico and thereby assuring a steady supply to the upper and lower basins, there would be more inducement to go ahead and build these works because you would not be imperiled by any fear that Mexico would claim more water in the future, by arbitration or otherwise?

Senator MILLIKIN. That, sir, is a condition precedent to the building of those reservoirs. That is why we want to get a treaty with Mexico—to get these rights stabilized.

Senator WILEY. What do you say about the argument made by the witness this morning that if Mexico presents that argument now and gets 1,500,000 acre-feet, and there are 8,000,000 acre-feet going down the river now, 25 years from now if she has used certainly what she can of that have you in any way disposed of the so-called comity feature or basis for future arbitration? You have still got it in the picture?

Senator MILLIKIN. It seems to me, Senator, that that is precisely what you do in this treaty. You make an over-all, final allocation of water under the treaty. That is exactly what you do. From my understanding of the words, there cannot be any other interpretation.

Senator WILEY. That is your answer to the position he took this morning, then: That it is for all time a final settlement between the parties as to any rights that now or may happen to arise, and you let the water go on that basis?

Senator MILLIKIN. If Mexico should continue to use water that we waste into Mexico beyond the 1,500,000 acre-feet, she does so under her peril by the clear provisions of the treaty and would have no cause to ask for arbitration, because she did act under her peril and did know exactly what she was doing.

Senator O'MAHONEY. Is there any agreement among the witnesses as to the amount of water that Mexico can use?

Can you answer that, Mr. Harris?

Mr. HARRIS. I am not qualified to answer that, sir.

Senator WILEY. Do you mean as a legal right?

Senator O'MAHONEY. No, no; I did not mean as a legal right, but her physical ability.

Mr. HARRIS. You are speaking of the present, now?

Senator O'MAHONEY. Yes; as the situation exists.

Mr. HARRIS. Yes; I think there is general agreement about that.

Senator O'MAHONEY. What is it?

Mr. HARRIS. It would be rather difficult to say that there is unanimous agreement.

Senator O'MAHONEY. Of course, quite obviously, you are not going to get unanimity among engineers any more than you are among lawyers.

Mr. HARRIS. The answer is: none.

Senator O'MAHONEY. Mexico cannot use any water?

Mr. HARRIS. No, sir; except by pumping, and the like.

I am going to ask permission to introduce as part of the record and part of my testimony this amendment on behalf of the Committee of Fourteen of the seven Colorado River Basin States.

The CHAIRMAN. You can file it. We will not agree to print it. You can file it, and the committee can act on it later.

Mr. HARRIS. I would suggest that Senator O'Mahoney read that. They say time and time again just what I have answered you: that it is Mexico that needs a treaty; that we are under no apprehensions.

Senator O'MAHONEY. One of the reasons for asking questions of expert witnesses like yourself is to get the advantage of your reading. We are dealing with 1,500,000 acre-feet?

Mr. HARRIS. Yes. It is a lot of water.

Senator O'MAHONEY. Do you wish to have the committee understand that Mexico cannot use more than 750,000 acre-feet except by pumping?

Mr. HARRIS. Yes, sir; and I should like to say why, if you will let me explain.

Senator O'MAHONEY. These questions are merely directed to elicit the facts; I do not want to argue with you.

Mr. HARRIS. All right. That is the fact.

Senator O'MAHONEY. My mind is open about this. I want to find out what the facts of the situation are, and when a witness argues with me he just takes up time and prevents me from getting the facts.

Mr. HARRIS. Suppose I should answer that I am of that opinion because somebody out in the hall told me so. Then you would not regard my testimony at all. But suppose I told you that my opinion is based upon prominent authorities from the States of Wyoming, Colorado, New Mexico, California, and Nevada. Then you would have more respect for my opinion.

Senator O'MAHONEY. I submit that that is argumentative. I know that you have reached your opinion from your studies. Do not tell me every act as to how you reached it. Let us get the fact.

Mr. HARRIS. All right. That is the fact.

Senator O'MAHONEY. Is it a fact that these additional 750,000 acre-feet may be used by Mexico only by pumping?

Mr. HARRIS. Only by the use of American facilities. There may be some other way besides pumping that they can use it, but it is not successful diversion; it does not amount to a hang. It has been attempted time and time again. Everybody knows that as a matter of history. Everybody knows it like we know there was a time when we did not have our present President.

Senator O'MAHONEY. Let us say that at this moment 9,000,000 acre-feet flowing across the line.

Mr. HARRIS. There has been a question about the amount of water.

Senator O'MAHONEY. There is no need of making an argument about a figure like that, because it is not important.

Mr. HARRIS. If you do not make a point of your exact amount, I acquiesce, of course.

Senator O'MAHONEY. Of course you do. You would be very helpful if you would not make technical objections.

Mr. HARRIS. I do not know whether the Senator sets store by the figure of 9,000,000 or not. I do not know that.

Senator O'MAHONEY. This water is now going into Mexico?

Mr. HARRIS. I assume it is.

Senator O'MAHONEY. Did you not testify this morning that Mexico might use that water on land in Mexico to the deprivation of water users in the United States?

Mr. HARRIS. Only if we give her the facilities to do it.

Senator O'MAHONEY. That may be a matter of fact, but it is unimportant to my inquiry. I am trying to find out if that water that is going into Mexico can be used in Mexico in any way.

Mr. HARRIS. It can be used, of course; they have the lands on which to put it.

Senator O'MAHONEY. That is precisely what I want to know. Now, do you know how much they could use?

Mr. HARRIS. No; I do not. I really do not know. I have no right to say; I am not an engineer.

Senator O'MAHONEY. Do you know whether or not engineers have estimated how much could be used?

Mr. HARRIS. Yes, sir; I do.

Senator O'MAHONEY. What are those estimates?

Mr. HARRIS. I do not know that.

Senator O'MAHONEY. Have you examined them at all?

Mr. HARRIS. Yes, sir; I have looked at them; I have not charged my memory with the exact amount.

Senator O'MAHONEY. Could you give it to me approximately, without binding yourself, without obligating yourself?

Mr. HARRIS. It is thousands of acres.

Senator O'MAHONEY. But how about acre-feet?

Mr. HARRIS. Acre-feet? Maybe they could use 2,000,000 acre-feet, maybe; more than we give them by this treaty.

Senator O'MAHONEY. In other words, you say they might use from 2 to 3 million acre-feet?

Mr. HARRIS. Might? Yes, sir. If you use the word "might," I will have to say "yes." That includes all possibilities.

Senator O'MAHONEY. Will that water flow down the river? Will that amount of water flow down the river?

Mr. HARRIS. Undoubtedly, sir. It has been flowing down since the beginning of time, and it will continue to flow to the end of time and go into the Gulf of California, unless the United States gives her away to get it out.

Senator O'MAHONEY. In your judgment, from two to three million acre-feet of water may flow down that river for all time to come?

Mr. HARRIS. I am not trying to evade you, Senator, because I have no disposition to do so; but a large quantity of water, in excess of a million and a half acre-feet, will.

Senator O'MAHONEY. That is a very clear, concise answer.

Mr. HARRIS. Anybody can go down and look at it.

Senator O'MAHONEY. That is the thing that is bothering me. If it be true, as you say, that a large quantity of water, in excess of 1,500,000 acre-feet, will constantly and at all events flow down the river into the Gulf of California, how under heaven are we injured if we say to Mexico "You can use it?"

Mr. HARRIS. Nobody has any objection to her using it until we want it, and we want it as quickly as we can get it. There will not be enough for Utah or Wyoming.

Senator O'MAHONEY. When?

Mr. HARRIS. Sometime in the future; as quickly as we can get it.

Senator O'MAHONEY. When will there not be enough?

Mr. HARRIS. There will not be enough as soon as we bind ourselves to give away some.

Senator O'MAHONEY. You are controverting your own answer.

Mr. HARRIS. Am I? How so?

Senator O'MAHONEY. Because you said that from two to three million acre-feet will actually, physically flow by that boundary for all time to come.

Mr. HARRIS. I said for all time to come unless we utilize it; but we have plans to utilize it, and we want to utilize all of it, Senator. Some of these people want to utilize only a small part of it; that is the only difference.

Senator O'MAHONEY. I am trying to find out whether, in your judgment, with the maximum utilization of water in the United States, there will still flow into the Gulf of California more than 1,500,000 acre-feet.

Mr. HARRIS. Under maximum use in the United States, there will not be a drop flow down there—not a drop.

Senator O'MAHONEY. How can that maximum flow be developed to prevent any water from flowing into the Gulf of California?

Mr. HARRIS. How can it?

Senator O'MAHONEY. Yes.

Mr. HARRIS. You mean in detail?

Senator O'MAHONEY. Of course not in detail. That would take another 6 months for development.

Mr. HARRIS. We have in Utah plenty of land. I understand from the Green River development people you have plenty of land in Wyoming. There is plenty of land in Nevada. I know we have upward of 25,000 acres in southern Utah, in a poor country. I know that they need it there. I know there are 13,700 acres in southern Utah that now have inadequate water supply. They want to get it out of the Virgin River, that is one of the tributaries. They apprehend that with the storage reservoirs Senator Millikin has been talking about and without the danger of having to send down too much to Mexico, they can do it. But they apprehend that without the storage reservoirs and with the allocation to Mexico as large as is suggested, they cannot do it.

There are plenty of places in the United States to use water; nobody doubts that. Before we ever gave Mexico one drop, there would be none going down to the Gulf of California.

Senator O'MAHONEY. Then, users in the United States above the Mexican line can, if the facilities are provided, use all the water that flows down that stream?

Mr. HARRIS. There will not be any if we get our own full development. If the Senate of the United States does not take it away from the seven basin States, there will not be any. That is the fact; everybody confirms it; it is not merely I who says so.

Senator O'MAHONEY. Mr. Reporter, would you be kind enough to read my question?

The REPORTER (reading):

Then users in the United States above the Mexican line can, if the facilities are provided, use all the water that flows down that stream?

Mr. HARRIS. Yes; of course they can. Does anybody question that?

Senator O'MAHONEY. Then it is true that as you go up the stream, step by step, the same answer could be given?

Mr. HARRIS. As we go up the stream you can find users all the way up, the total of which will use every drop of water in the stream if we do not give Mexico a drop.

Senator O'MAHONEY. Could the users in the State of Utah use all the water that comes into Utah in such a manner that none would be delivered to any user below Utah?

Mr. HARRIS. I think it is quite likely—all that it has a right to.

Senator O'MAHONEY. That is because of the compact?

Mr. HARRIS. Yes; I think they probably could. I would not be certain about that. We cannot use more than our share.

Senator O'MAHONEY. So we have here this situation: The Colorado River compact is an agreement among States, upper and lower, each of which could make complete utilization of the waters within its boundaries to the deprivation of the States below in the stream?

Mr. HARRIS. I will not say that it is not so. I will have to answer that I do not know. I do know that they could use at least their compact share.

Senator O'MAHONEY. So if the States among themselves had adopted the same attitude which you are asking the Senate to adopt with respect to Mexico, the States on the upper streams could have prevented the water from flowing down to be used by those below?

Mr. HARRIS. Physically they had the power to do it.

Senator O'MAHONEY. Then the question that is now presented is whether by the means of this treaty we shall make an agreement with Mexico similar to that which the States made among themselves.

Mr. HARRIS. No; I do not think that is the thing at all.

Senator O'MAHONEY. With respect to the right of using it?

Mr. HARRIS. I do not think the relationship between the States of Utah and California or between Wyoming and Nevada is the same as between the United States and Mexico.

Senator O'MAHONEY. Of course. I did not say anything about the nature of the relationship. The Colorado River compact, however, was an agreement whereby 8,500,000 acre-feet were allotted to the lower basin States and 7,500,000 acre-feet were allotted to the upper basin States; and the upper basin States agreed that in every 10-year period they would allow 75,000,000 acre-feet to flow down that river to the lower basin States.

Mr. HARRIS. It was a bad agreement, I think.

Senator O'MAHONEY. What?

Mr. HARRIS. I think it was a bad agreement. Any upper user who makes a guaranty to a lower user will have two results, not three. He will either break even or lose.

The upper basin has already made one guaranty to a lower user; now it is proposed to make another guaranty to another lower user. It seems to me that you have something that is utterly incredible. You have here people who claim—every one of them—that they need every drop of water themselves; you have people here saying, "Let us give them twice as much"; and you have people saying, "Let us give them half as much." The fact that anybody wants to give them twice as much is just incredible to me; I just cannot understand it. I should like to explain that if there was some compelling force that required us

to give them twice as much, I might try to reconcile myself to it. But how in the world can I ever be in favor of it? I do not know.

Senator DOWNEY. I should like to ask a few brief questions, Mr. Chairman; I have not asked one in a long time.

The CHAIRMAN. Senator Downey.

Senator DOWNEY. Mr. Harris, you have stated that it is your opinion, based upon what you believe to be competent engineering advice, that Mexico cannot divert any substantial amount of this water from the Colorado River except by the use of reservoirs, diversion ditches, or dams in the United States.

Mr. HARRIS. That is my opinion, based upon competent engineering advice, in regard to which there was no difference of opinion up until recently, and there has not been much since then.

Senator DOWNEY. Now, Mr. Harris, if the water users of the United States wanted to prevent Mexico from building up a prescriptive right in our reservoir, all we would have to do would be to shut down our head gates in the United States, would we not?

Mr. HARRIS. Surely; it would flow into the Gulf of California.

Senator DOWNEY. But you feel very positive that unless the diversion dams and ditches are used in the United States to help Mexico get this water, she cannot get it?

Mr. HARRIS. Well, why shouldn't I? Everybody says so. The Committee of Fourteen has said so over and over again.

Senator DOWNEY. There will be later engineering advice on that.

Now, I will ask you this question: You were interrogated at considerable length as to whether the people of the United States would be forced to arbitration of this question.

Mr. HARRIS. Yes, sir.

Senator DOWNEY. Can you conceive, Mr. Harris, that the Senate of the United States would consent to arbitration, submitting the right of Mexico to compel us to use reservoirs, ditches, rights-of-way, and dams in the United States of America, and on our own soil, for the benefit of Mexico? Can you conceive of that?

Mr. HARRIS. Answering the precise question, of course, no; but it is impossible to conceive of the Senate of the United States stating a question by a two-thirds majority which would arbitrate the use of waters of our river, let alone the use of our diversion works and facilities; and they do not have to.

Senator DOWNEY. Unless the Senate of the United States consented to leave to some international tribunal the question of how much of Davis Dam, of Boulder Dam, and of our land, our ditches, and our head gates should belong to Mexico, there is no possibility of our being forced to have arbitration?

Mr. HARRIS. No possibility unless a two-thirds majority of the Senate shall so state such a question and submit it to a foreign power, which, I say, I cannot conceive of.

Senator DOWNEY. Do you have the treaty arbitration of 1929 here?

Mr. HARRIS. I have it here.

Senator DOWNEY. Can you turn to the last reservation, the only one passed on by the United States Senate, and read that to us, because some of us do not seem to be familiar with it.

Mr. HARRIS. Well, I have it here; I do not have to turn to it.

Resolved, two-thirds of the Senators present concurring, That the Senate advise and consent to the ratification of Executive F, Seventy-third Congress,

second session, a general treaty on inter-American arbitration, signed at Washington on January 5, 1929, with the understanding, to be made a part of such ratification, that the special agreement—

that is, the subject of arbitration—

in each case shall be made only by the President, and then only by and with the advice and consent of the Senate, provided two-thirds of the Senators present concur.

Senator DOWNEY. Would you understand that to mean, Mr. Harris, that it would only be by consent of the President and two-thirds of the Senate that any international tribunal will have the right to decide whether we should construct Davis Dam and measure head gates out of Boulder Dam and make ditches in the United States for Mexico?

Mr. HARRIS. Why, of course not. If it is not offensive, it is silly to think of such a thing.

Senator DOWNEY. One further question, and then I shall have concluded. Are you familiar with the still confidential report of the Bureau of Reclamation, showing that there are many projects in Wyoming and throughout all the other Colorado River Basin States which are desirable and almost essential projects for which there is not expected to be enough water in the Colorado River system? Are you familiar with that?

Mr. HARRIS. I know that there is a report. I am told by those upon whom I have a right to rely that that is so.

Senator DOWNEY. Mr. Harris, one final question, so that there can be no further misunderstanding. I think perhaps your answer to the question of the Senator from Wyoming admitted of a certain ambiguity. What you meant to say to him several times was that there would continue to flow a very large volume of water down the Colorado River until the water users in the United States were enabled by building their facilities to utilize it?

Mr. HARRIS. Of course.

Senator DOWNEY. Do you know that in California we have already built some of those facilities large enough to take care of future uses for the growth of southern California?

Mr. HARRIS. I am familiar with that fact.

Senator DOWNEY. I think that is all.

Senator MILLIKIN. What percentage of the capacity of the aqueduct in California is being used at the present time?

Mr. HARRIS. I have not the faintest idea. Would the Senator mind saying what the significance of that is?

The CHAIRMAN. Do not get into the significance of it.

Senator MILLIKIN. You have answered my question; you have said you do not know.

Mr. HARRIS. We plan for the use of a water supply for Salt Lake City that will take care of its normal growth to 1980. I would hate to think we are going to risk that water supply that we have paid for by reason of the fact that we will not use it until 1980, because we have appropriated for it.

Senator MILLIKIN. I have not suggested anything.

The CHAIRMAN. What is the name of the concern you are representing? Your regular client?

Mr. HARRIS. I am representing the metropolitan water district of Salt Lake City.

The CHAIRMAN. Are you permanent counsel for them?

Mr. HARRIS. Yes, sir.

The CHAIRMAN. That is, permanent up to now.

Mr. HARRIS. That is only 1 of about 20 organizations of water users. I represent over a majority of the water users of the Colorado River Basin from all the seven States.

The CHAIRMAN. Are you compensated by all of them?

Mr. HARRIS. No, sir; I have no compensation for being here.

The CHAIRMAN. Except that which your company pays you?

Mr. HARRIS. They pay my salary.

The CHAIRMAN. It is proper that they should, and that they should pay your expenses. I do not mean to imply anything improper; I think it is proper. If you are regular counsel for them, I think you ought to be paid and to have your expenses paid.

Mr. HARRIS. My expense account is even running out.

The CHAIRMAN. I wanted to see how far you were representing these other associations.

Mr. HARRIS. The other people pay me nothing.

The CHAIRMAN. You are just representing them voluntarily?

Mr. HARRIS. Yes; not voluntarily, at their request but without compensation.

The CHAIRMAN. Well, you were not drafted; you just consented to serve. You say you represent a majority of all the water users in the entire seven States?

Mr. HARRIS. Yes, sir.

The CHAIRMAN. From what Mr. Swing said, I thought he represented them.

Mr. HARRIS. He represents them also.

The CHAIRMAN. I thought Senator O'Mahoney and Senator Millikin represented some of them.

Mr. HARRIS. Yes. I represent very few from Senator Millikin's State.

The CHAIRMAN. Senator McFarland, from Arizona, represents some of them.

Mr. HARRIS. I represent 90 percent of the water users of Arizona.

The CHAIRMAN. How many in Arizona?

Mr. HARRIS. About 90 percent of the water users of Arizona.

The CHAIRMAN. I am talking about the seven States.

Mr. HARRIS. A hundred percent of California, a hundred percent of Nevada, about 90 percent of Arizona, a very small part of Colorado, a very large number of the Colorado River water users in Wyoming.

Have I left out any States?

The CHAIRMAN. New Mexico.

Mr. HARRIS. Nobody in New Mexico. A substantial portion of those in Utah by their express consent and request.

The CHAIRMAN. Did you correspond with them and tell them you would be glad to represent them all here?

Mr. HARRIS. Well, let us see with whom I have talked, to answer your question directly. We all met and discussed the matter in Las Vegas. I spoke and other people spoke, I more briefly than anybody else, if you can believe it.

The CHAIRMAN. If that is true, I am glad the rest of them are not witnesses. You told them there at the meeting that you would appear here and represent them?

Mr. HARRIS. No, sir. It was not discussed there.

The CHAIRMAN. When did you discuss it?

Mr. HARRIS. I have letters.

The CHAIRMAN. That is what I asked you at first. I asked you if you corresponded with them, and you did not answer that.

Mr. HARRIS. I am sorry I did not understand you.

The CHAIRMAN. You wrote to them and told them you would be glad to appear?

Mr. HARRIS. Some of them on the telephone; I have letters from others; I personally talked with a lot of others. I had a personal talk with all of them at Las Vegas.

The CHAIRMAN. All right; that is all.

Senator LUCAS. How many in Arizona?

Mr. HARRIS. When I used the figures 80 percent or 90 percent, why, my engineers tell me computations of acreage have been made by the engineers, and I have checked and asked them to be sure that I represent them accurately. I am not an engineer but a lawyer. They tell me my representation is accurate. If I am in error by 1 or 2 percent, it is because their figures are not correct. But it is approximately what I have said.

Senator McFARLAND. Mr. Harris, what letters of authority do you have from Arizona?

Mr. HARRIS. I have no letter of authority from Arizona. Do you mean from anybody in Arizona?

Senator McFARLAND. You say you represent 90 percent of the water users there?

Mr. HARRIS. "Represent" is perhaps an inaccurate word, speaking as a lawyer. I am authorized to speak on their behalf. I am a member of the working committee.

Senator McFARLAND. What I am getting at is, What is your authority to—

Senator JOHNSON of California. Let him answer.

Senator McFARLAND. I hope he will.

Mr. HARRIS. I am not at all offended. Certainly my authority is a very great deal more clear than that of many who have appeared here purporting to represent certain States.

Senator McFARLAND. The only thing is that—

Mr. HARRIS. They are around the room here. Ask them if I speak with their authority.

The CHAIRMAN. You are on the stand.

Mr. HARRIS. The Salt River Water Users Association.

Senator McFARLAND. Salt River; that is one.

Mr. HARRIS. I am authorized to speak on behalf of the Colorado River Water Users Conference of Las Vegas, which, to use my precise words, represents 80 percent of the water users of the Colorado River system.

Senator McFARLAND. I am not questioning your honesty or integrity, Mr. Harris.

Mr. HARRIS. I assumed not.

Senator McFARLAND. The only thing is that I want the record to speak whatever it may be. For instance, you read out from a detailed paper there something in regard to, I believe, the San Carlos irrigation and drainage district.

Mr. HARRIS. Let us see if they are on my list. At that meeting was the district engineer of the San Carlos irrigation and drainage district, of Coolidge, Ariz.

Senator McFARLAND. A telegram that came to me from the engineer, sent after that meeting, was to the effect that the irrigation district had not taken any action. I just wondered if there were any of the rest of them like that. I do not know; maybe they have acted since. That is the reason I am asking you where your authority comes from and what it is.

Mr. HARRIS. There is on file with the chairman a resolution unanimously passed—

Senator McFARLAND. By the San Carlos irrigation and drainage district?

Mr. HARRIS. Whether the representative—the engineer—of the San Carlos irrigation and drainage district was present and voted for the resolution, I do not know. I did not examine the credentials of Mr. Carl A. Anderson; I did not examine the credentials of Northcutt Ely.

Here is one of them who says he is governor of the Salt River Valley project. He may not be; maybe all those people are imposters. Senator McFARLAND. I am not questioning that.

Mr. HARRIS. Then, what is it you desire?

Senator McFARLAND. I just want the record to speak whatever the facts may be. I have given you one example: that since your meeting the engineer who appeared there wired me stating that the district had not taken any action. What I am trying to find out is the fact. I do not know; maybe they have since taken action. I am trying to find out, for instance, whether that one particular district has gone on record one way or another. You say you represent them.

Mr. HARRIS. No; I said that they said I represented them.

Senator McFARLAND. Well, do you or do you not represent them?

Mr. HARRIS. Oh, I did not apprehend your question. That complete organization of water users there, at which were represented almost all the water users of Arizona, unanimously concurred in the resolution that is on file with the chairman.

The CHAIRMAN. What chairman?

Mr. HARRIS. Yourself, Mr. Chairman.

Senator McFARLAND. Is that resolution which has been introduced in evidence the only authority by which you speak for those water users in Arizona?

Mr. HARRIS. No, sir; I am a member of the working committee.

Senator McFARLAND. I am not particular about it one way or another; but if you do represent them, I am interested to know what the facts are. I know that the Salt River Valley water users have representatives here who are going to appear in their behalf, they tell me, in opposition to this treaty. But I do not know what the position of, for instance, the San Carlos irrigation and drainage district is. If you have authority to represent them, you appear against it. I presume that that is their position. But I should like to know if you have authority to speak for them, since I have received a telegram from them stating that they had not taken any action. I do not want the record here to speak something that is not true. If you have the authority, say so; if you have not, say so.

Mr. HARRIS. I have said so 20 times.

Senator McFARLAND. If you have it, what is it? What is your authority, then?

Mr. HARRIS. The record here, so far as I am concerned, will show concerning me what I say. I say—

Senator McFARLAND. That you have authority to represent the San Carlos irrigation and drainage district?

Mr. HARRIS. Will you permit me to finish my statement?

Senator McFARLAND. I should like to have an answer to my question.

The CHAIRMAN. Answer the question if you can.

Mr. HARRIS. Of course, I can answer it.

The CHAIRMAN. Answer it, then.

Mr. HARRIS. I say here and now—

Senator McFARLAND. You can answer it "Yes" or "No."

Senator JOHNSON of California. Just let him answer.

The CHAIRMAN. Go ahead and answer the question.

Mr. HARRIS. I say here and now what I said here this morning in enumerating those that I represent.

I represent also the Colorado River Water Users Conservation Conference, which represents 80 percent of the water users of the entire Colorado River Basin, and which in turn is composed of about 90 percent of the water users of Arizona from the Colorado River system.

I cannot amplify that; it is perfectly clear.

The CHAIRMAN. All right. Is that the answer?

Senator McFARLAND. Well, it does not answer my question; but there is no need trying to get an answer, I guess.

Mr. HARRIS. If it does not, then it is hard to understand each other.

The CHAIRMAN. All right. Thank you, Mr. HARRIS.

STATEMENT OF HAMPTON C. GODBE, EXECUTIVE SECRETARY, METROPOLITAN WATER DISTRICT OF SALT LAKE CITY, UTAH

The CHAIRMAN. The next witness is Mr. Hampton C. Godbe. You may proceed, Mr. Godbe.

Mr. GODBE. Mr. Chairman and gentlemen, my name is Hampton C. Godbe, and I am the executive secretary of the metropolitan water district of Salt Lake City. I am appearing before you on behalf of that district, and the Provo River Water Users Association, 30 percent of whose water supply is dependent upon water from the Colorado River Basin.

Senator WILEY. What States?

Mr. GODBE. Utah.

(Continuing.) And the intermountain section, American Society of Civil Engineers.

These groups are earnestly opposed to the treaty for many reasons, as you have been told or will be told by my colleagues from Utah, Mr. Harris and Mr. Watkins. However, one of the most important reasons for their opposition lies in the effect of article III (d) of the Colorado River compact on the States of the upper division, of which Utah is one, and it is this phase of the matter that I now propose to discuss, which happens to be in relation to what Senator Millikin talked to Mr. Harris about.

My presentation will be very brief, and will embody, all told, only two points:

First, the particular jeopardy confronting the States of the upper division by reason of article III (d) of the compact.

Second, the presentation of two short resolutions. Altogether I do not expect to take up more than 15 minutes of your time.

The CHAIRMAN. Thank you.

Mr. GODBE. The States of the upper division—Utah, Wyoming, Colorado, and New Mexico—have a direct and vital concern in this matter, because of the effect upon them of article III (d) of the Colorado River compact of 1922, to which relatively little attention has been paid heretofore by the witnesses who have appeared before you. That is not true at the moment, however.

You have been told, and correctly, that the compact makes an apportionment of 15,000,000 acre-feet of Colorado River water equally among the two basins, 7,500,000 to each. But this allotment is subject to the provisions of article III (d) which says:

The States of the upper division will not cause the flow of the river at Lees Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of 10 consecutive years reckoned in continuous progressive series beginning with the 1st day of October next succeeding ratification of this compact.

In other words, the States of the upper division do not actually have allotted to them 7,500,000 acre-feet every year; they have only what is left after the States of the lower division receive 75,000,000 acre-feet every 10 years. This remainder may amount to 7,500,000 acre-feet per year, or as we are now learning to our consternation and chagrin, it may amount to much less. We are beginning to find out what it means to guarantee a water right to a lower user.

I have here photostatic copies of a chart which was prepared early in 1943 by the senior hydraulic engineer of the United States Geological Survey at Salt Lake City. It was not prepared for this case, and the Geological Survey, of course, has not taken a side either for or against this treaty. It is a simple analysis of actual conditions.

For the convenience of the members of the committee, I have extra charts here, and I have a large one here which I believe may help me, if it is visible to the members of the committee.

The chart shows the cumulative effect of article III (d) at the end of any 10-year period since 1922, the date the compact was signed. The volume of water is shown in terms of millions of acre-feet at the left of the chart, and at the bottom appear the years from 1922 to 1942.

Let us visualize this chart as a bucket into which we are pouring water. I would regard this as being the bucket. First of all, we must fill up the blue area, which represents the 75,000,000 acre-feet of firm right held by the States of the lower division against the States of the upper division in 10-year periods. That is this part right here, and that appears on your smaller charts. After filling the blue area, then, and only then, may we of the upper division take water for our own use. This water is represented by the yellow area. The brown area at the upper left indicates the surplus water in wet years, so-called, and the red area indicates the deficit accruing to us in low-water years.

The chart does not show the upper division's consumptive uses because we do not know what they are, we have only guesses, which range

up to as high as 2,300,000 acre-feet. I believe that Senator Millikin earlier used the figure 2,500,000 acre-feet, but, we submit, we do not know what those consumptive uses are.

Senator WILEY. Present consumptive uses?

Mr. GODBE. Yes, present consumptive uses, or, for that matter, these consumptive uses. We do not know what they are, if anyone does know.

Senator MILLIKIN. What is your estimate?

Mr. GODBE. I have none, sir; I know only what has been told me by the engineers.

Merely for purposes of illustration, I am choosing to assume that figure as being the amount of consumptive use, 2,300,000 acre-feet. The basic point is that whatever the consumptive uses amounted to in terms of acre-feet, they have not materially changed since 1922, so the surpluses and the deficits shown on this chart are indicative of the value of the undeveloped portion of the river to the upper basin not only as it was in 1922 but as it is today. In other words, this is what we had then [indicating]; this is what we have now [indicating]. In other words, the "yellow" water was then, and is today, the water upon which we must plan. Incidentally, it is worthy of noting that "the records of run-off at Lees Ferry date back only to 1922"—R. J. Tipton, 1938, report, page 115—so that the earlier flow represents only guesswork. We point that out because we do not really know what those run-off figures actually were.

You will notice that there is a surplus shown for the various 10-year periods only up to the year 1930; which would be on the chart at this point [indicating], with the greatest surpluses shown in the period ending in 1922, the date of the compact. On the basis of the data then before them, perhaps the signers of the compact can be forgiven for assuming that there was "plenty of water for everybody," and that the States of the upper division did not need to worry about their guaranty to the lower division. But was there plenty of water?

You will notice that beginning in 1930, which would be about here [indicating], the surplus gave way to a deficiency, and that deficiency dipped almost steadily downward until it reached its lowest point in the 10-year period ending in 1940, which would be about here [indicating]. You may see, therefore, that in a period like 1940, instead of having 75,000,000 acre-feet or 10 times 7,500,000 for the upper division, there was only some 27,00,000 acre-feet remaining after the small existing uses had been satisfied. Our annual shortage for such a period, in other words, would range upward of 2,500,000 acre-feet—one-third of our portion under the compact.

Now, as Senator Millikin has said, it is said that this deficiency can be offset by storage. But can it? Nature has a habit, as the chart shows, of delivering water when the reservoirs are full and cannot hold more. Evaporation takes away large quantities of water.

Senator WILEY. If you had had reservoirs in that so-called arid period, could you have taken care of that?

Mr. GODBE. I am coming to that in another way, if I may continue. Senator WILEY. Pardon me.

Mr. GODBE. But even more important, where is the stored water to come from? In the dry cycles when surplus is most needed, there is none. We of Utah have no surplus actually apportioned to us as a State, and not only that, but the upper division must, by the provisions

of article III (d), sacrifice its storage if necessary to satisfy the lower-division rights. And what farmer can quit cultivating his land for 5, 6, or 7 years while he waits for the reservoirs to fill? If we do not have sufficient water to meet this guarantee in the blue, I believe we will have to deliver that out of our storage.

Senator O'MAHONEY. May I interrupt you?

Mr. GODBE. Yes, sir.

Senator O'MAHONEY. Are you taking into consideration the fact, as written on your chart there, that the 75,000,000 acre-feet of delivery which is required is for any period of 10 consecutive years?

Mr. GODBE. Yes, sir. Perhaps I have not quite made this chart clear. Let me illustrate in this way. Let us take this low point right here, if you can all see [indicating]. That low point represents not the shortage for 1 year, sir; it represents the accumulated shortage for the 10 preceding years. So if the date on this chart shows as 1940, that represents the 10 preceding years from 1931 to 1940, inclusive. So the accumulated deficit would be 2,700,000 acre-feet.

Senator O'MAHONEY. To clarify my own mind upon this matter, look at your chart about the year 1931, which is the beginning of the deficit as shown there. That is the first little deficit, and that amounts to how much?

Mr. GODBE. I would have to do some fast calculating here. It may not, depending on what the real consumptive use is in the upper basin, actually amount to a deficit.

Senator O'MAHONEY. Then, take the first one that does amount to a deficit. Let us say 1932. Does that red segment of your chart for 1932 mean that from 1922 to 1932, inclusive—a 10-year period—there was that amount represented in red below 75,000,000?

Mr. GODBE. Yes. I see the point of your question, which I did not at first. That would represent a shortage of 10,000,000 acre-feet.

Senator O'MAHONEY. In other words, you are telling the committee by this chart that during the 10-year period ending in 1932 there were only 65,000,000 acre-feet delivered at Lees Ferry?

Mr. GODBE. No, sir; I mean to say that the 75,000,000 acre-feet were delivered at Lees Ferry in that year, but that there remained to the upper-basin States not 7,500,000 on the average for that 10 years, but 6,500,000.

Senator O'MAHONEY. In other words, in order to deliver 75,000,000 acre-feet, the upper basin had to contribute that amount out of its 7,500,000 acre-feet?

Mr. GODBE. Yes, sir; that is the point.

Senator MURDOCK. Mr. Chairman, have we done away with the rule that we are not to interrogate witnesses?

The CHAIRMAN. No.

Senator MURDOCK. I just wanted to be sure what the rule is. If it has been abrogated, I want to participate in the questioning.

The CHAIRMAN. You made a mistake in asking the question.

Senator MURDOCK. No; I have none; I am just afraid that the urge may come upon me.

The CHAIRMAN. Go ahead.

Mr. GODBE. We water users of the West have learned from the experiences of nearly 100 years that we cannot plan a water supply from the average flow of a stream. We have learned that droughts

occur not in isolated years but in cycles, so that we must take the lowest known years of record as our starting point. If still lower years should appear, then we must realign our plans accordingly.

Knowing this, then, do you wonder that we who are the water users have lost confidence in the men who have given away important rights of our basin to lower users, as was done in the Colorado River compact by article III (d)? And do you wonder that, in view of what we are now painfully awakening to in regard to the compact, we have utterly no confidence in the men who now propose to compound the mistakes already made by making still another guaranty of water to a still lower user, as they would do in this treaty?

I have made this presentation to demonstrate these points:

First, that there is no water in the Colorado River to spare, for Mexico or anybody else.

Second, that anything we give to Mexico will work a hardship upon us, because it comes out of our low cycles.

Third, that if any right is recognized in Mexico, such recognition, if only out of mere equity and fairness to us in the upper basin, should be placed on a percentage basis and most certainly not be given as a guaranteed right as this treaty proposes.

In conclusion, gentlemen, I wish to offer for the record two resolutions which I have been instructed to present. The first was adopted last January 19 by the intermountain section, American Society of Civil Engineers. This society is composed of the leading engineers not only of Utah but of the other Intermountain States. These men heard a 3-hour presentation of the case for the treaty by Mr. R. J. Tipton, who came from Denver for the purpose; and they heard an equally thorough discussion of the case against the treaty by Dr. Franklin Harris, a member of the board of directors of the Metropolitan water district of southern California, and who is a member of the engineering faculty of the California Institute of Technology. These two meetings were followed by a third, at which 50 to 100 members were present, and at which there was a spirited discussion of the facts. The engineers thereupon unanimously adopted the following resolution:

RESOLUTION OF THE INTERMOUNTAIN SECTION, AMERICAN SOCIETY OF CIVIL ENGINEERS, JANUARY 19, 1945

Be it resolved by the Intermountain Section, American Society of Civil Engineers, That we express our opposition to the Colorado River Mexican treaty in its present form, and favor amendment of the treaty as follows:

1. That allotment of water to Mexico be made to conform with the findings and recommendations of the Committee of Fourteen as published in memoranda on behalf of the Committee of Fourteen, 1942.

2. That regulations be promulgated for the control and administration of the Colorado River system separate and distinct from any other river system.

3. That the general powers of the Colorado River Commissioner be subject to legislative and judicial control.

4. That said treaty shall not abrogate nor interfere with the vested rights of the water users of the several basin States.

We further recommend that the credentials of any group purporting to represent a State or group of water users be examined to determine the extent of their authority and representation.

Senator MILLIKIN. Mr. Chairman, may I breach the contract about questions?

The CHAIRMAN. Senator Millikin.

Senator MILLIKIN. Mr. Godbe, do you have a board for your water district?

Mr. GODBE. Yes, sir.

Senator MILLIKIN. Have you submitted to the board the resolution authorizing you to come here?

Mr. GODBE. I have it right here, Senator.

Senator WILEY. You laid that trap well. [Laughter.]

Mr. GODBE. I submit to you, gentlemen, that this resolution is not to be taken lightly. It represents the considered judgment of professional engineers who went directly to the highest authorities available to them for their facts.

The final resolution is the one adopted by the Metropolitan Water District of Salt Lake City, for the board of directors, of which I am the executive secretary. This resolution is as follows:

Resolved, That the Metropolitan Water District of Salt Lake City does hereby indorse and concur in the resolution opposing the proposed Colorado River treaty between the United States and Mexico, as adopted by the Colorado River water users of Arizona, California, Colorado, Nevada, Wyoming, and Utah at their meeting held in Las Vegas, Nev., January 12 and 13, 1945; and be it further

Resolved, That we do hereby appoint Mr. Fisher Harris, general counsel of the district, and Mr. Hampton C. Godbe, its executive secretary, as the delegates of this district to appear in opposition to the treaty at the hearings to be conducted in Washington, D. C., by the Senate Foreign Relations Committee, and to offer this resolution in evidence; and be it further

Resolved, That they are instructed to present copies of this resolution to Senator Ebert D. Thomas and Senator Abe Murdock and to urge each of them to do everything that may properly be done against the ratification of this proposed treaty.

I wish to thank Chairman Connally and the other members of this committee for permitting me to testify and for the courteous attention you have given me.

Senator WILEY. May I suggest that that particular provision of the compact that Mr. Godbe pointed out so effectively, but which he did not give us verbatim, be included in the record at this point?

Mr. GODBE. I beg your pardon, sir. I thought I had read it verbatim—article III (d).

Senator WILEY. I did not think you had read it; at least, I did not so understand. You referred to it.

The CHAIRMAN. Is it in your written statement?

Mr. GODBE. It is in the written statement.

The CHAIRMAN. Then it will be published in the record. Are there any questions?

Senator MCFARLAND. I should like to ask one question, maybe two.

The CHAIRMAN. Three.

Senator MCFARLAND. Your testimony shows that you have given quite a bit of study to the amount of water that is in the Colorado River. There is one question I should like to ask. I should like to know whether you have made any investigation in this regard: Some of the testimony of some of the engineers who appeared here, as I understand it, was to the effect that after Boulder Dam was constructed, there was sufficient of what we call normal flow in the Colorado River that went on down to Mexico to have supplied more than 1,500,000 acre-feet per year. Have you or have you not made any study in that regard?

Mr. GODBE. Let me answer in this way: This is not my study; this is a study that was made by the United States Geological Survey, as I said, about a year or a year and a half ago. I have not made any direct study of the stream flow. I do not know what it represents other than what I have been informed by the Government agencies.

Senator McFARLAND. But you did not examine it in regard to that one particular question?

Mr. GODBE. No, sir; I have not gone into the matter of stream flow in the entire river.

Senator McFARLAND. Thank you.

The CHAIRMAN. Mr. Godbe, are you an engineer?

Mr. GODBE. No, sir, I am not.

Senator O'MAHONEY. The chart from which you read has this title: "Discharge of Colorado River in Consecutive 10-year periods, 1921 to 1942, in its relation to the compact."

Then, it has "4/1/43" and appears to be signed by the initials "R. R. W."

Mr. GODBE. Yes, sir.

Senator O'MAHONEY. Whose initials are those?

Mr. GODBE. Those are the initials of Ralph R. Wooley, who is senior hydraulic engineer of the United States Geological Survey in Salt Lake City. I am quite sure that is the date on which he presented the chart, although I could not swear to it.

Senator O'MAHONEY. He prepared it?

Mr. GODBE. Yes, he prepared it. This is merely a photostatic copy of his chart.

Senator MURDOCK. Mr. Godbe, I wonder if you have given any attention to this question: Article III, paragraph (a), of the compact reads as follows:

There is hereby apportioned from the Colorado River System in perpetuity to the upper basin and to the lower basin, respectively, the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum, which shall include all water necessary for the supply of any rights which may now exist.

Mr. GODBE. Yes.

Senator MURDOCK. What do you understand by "beneficial consumptive use"?

Mr. GODBE. Consumptive use, Senator Murdock, I would regard as being water taken permanently out of the stream. That is to say, in the case of transmountain diversion, for example, there is a clear consumptive use. The water cannot possibly get back into the river bed.

Senator MURDOCK. It has been stated, I think, by some of the witnesses on the stand that a beneficial consumptive use is the diversions minus the return flow. Is that a correct statement, in your opinion?

Mr. GODBE. I should think it would be; yes, sir.

Senator MURDOCK. So applying that now to the treaty that we have before us, let us suppose that the engineers who have testified that there will be a return flow of 930,000 acre-feet to the Colorado River within the United States but below a point where it can again be used in the United States, are correct. Is it your understanding of the compact and the language that I have read that the lower basin, in furnishing any water to Mexico, would be credited with the entire 930,000 acre-feet?

Mr. GODBE. May I answer that in this way?

Senator MURDOCK. In any way you want to.

Mr. GODBE. It will be an analogy. In 1935, when the district by which I am employed was invited to join the Provo River project, which depends in part upon the Colorado River tributary water for its supply, we were told that we could count upon some 20,000 acre-feet of return flow to be credited to the project.

We did not join the project in that year, but by the time we did join, in 1938, they were then talking of 16,000 acre-feet. When I say "they," I mean the Government engineers, upon whom we relied heavily. Later they talked of 12,000 acre-feet. Today, gentlemen, if they can, they change the subject, leaving out the matter of return flow. So I say we cannot count on return flow.

Senator MURDOCK. I do not believe you understand the question. I am assuming there is a return flow of 930,000 acre-feet.

Senator O'MAHONEY. Annually?

Senator MURDOCK. Annually, from diversions made in the lower basin. If I have followed you and other witnesses on your definition of consumptive use, then the lower basin would be entitled, would it not, to deduct from other diversions whatever the return flow is in the lower basin?

Mr. GODBE. In its relationship to Mexico?

Senator MURDOCK. No; in its relationship to the upper basin. Here we have a certain quantity of water under the treaty that must be delivered to Mexico.

Mr. GODBE. Yes.

Senator MURDOCK. It is supposed to come out of surplus waters; but if there are no surplus waters, then the burden of supplying Mexico must be equally divided, under the compact, between the upper- and the lower-basin States.

Mr. GODBE. Yes.

Senator MURDOCK. Now, what I have in mind is this—and to me it is the most important thing in connection with this treaty, so far as the upper basin is concerned. If the lower basin is entitled to credit for the entire return flow to the Colorado River, and that return flow is 930,000 acre-feet, then it certainly means that any virgin flow that is necessary to supply Mexico must come from the upper basin. Am I right or wrong in that?

Mr. GODBE. I would think that that is probably so; yes, sir.

Senator MURDOCK. So if the return flow to the river below all points where it can be reused in the United States, but above the point where it is measured to Mexico, is 930,000 acre-feet per annum, then the upper basin would find itself not only in the position of having to supply the entire virgin flow that is necessary to make up the 1,500,000 acre-feet to Mexico but it probably would also be called upon to make up any deficit to the lower basin in that equal division of the obligation to Mexico.

So we would not only have to supply the entire virgin flow that was necessary to make up the deficiency to Mexico, but the lower basin probably would say: "Here. We have supplied 930,000 acre-feet as return flow to which we are entitled to credit. That being so, the upper basin owes us the difference between 750,000 and 930,000"; which

they could probably demand be turned down from the virgin flow of the river.

Mr. GODDE. I think that is exactly the question.

Senator O'MAHONEY. May I ask, Are you not assuming that the 930,000 acre-feet of return flow of which you speak would be in addition to the 8,500,000 acre-feet allotted to the lower basin by the compact?

Senator MURDOCK. I am assuming nothing. I am simply taking the evidence of experts, which is to the effect that there will be a return flow of 930,000 acre-feet from the diversions in the lower basin.

That being so, and if that 930,000 acre-feet is to be credited to the lower basin States against their diversions, and can be credited to them in supplying a quantity of water to Mexico, then it leave the upper basin States to furnish the balance from the virgin flow.

Senator O'MAHONEY. It is not being credited to them if they are using it.

Senator MURDOCK. Well, it is their water.

The CHAIRMAN. You make the point that they could not use it, did not use it, and it was delivered below the point where it could be used. So why should they be entitled to credit?

Senator MURDOCK. Under the language of the compact; and that is what I would like to have cleared up in my own mind. I think it is of the utmost importance to the upper basin States. To me it is the most important question that has come to my mind. When we go back to the language again, we read:

There is hereby apportioned from the Colorado River system in perpetuity to the upper basin and to the lower basin, respectively—

this is the important language—

the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum * * *.

Now, any diversions in the upper basin from which there is a return flow above Lee Ferry is credited to the upper basin. That return flow is credited to the upper basin in the delivery of the 75,000,000 acre-feet to the lower basin over the 10-year period. So the upper basin does get full credit for its return flow in supplying 75,000,000 acre-feet over a 10-year period to the lower basin.

Now, if the lower basin, notwithstanding the fact that they cannot use that return flow, because it comes into the river below the point where they can use it, but nevertheless above the point where it is measured to Mexico, take the position that under this language of the compact that they are entitled to credit because they have not consumed that water, and it is still available there in the river to Mexico—if they can claim credit for that full 930,000 acre-feet, or for that matter any amount of return flow—let us say it may be 500,000 acre-feet—then it means that the big burden of furnishing virgin water to supply Mexico comes from the upper basin States.

The CHAIRMAN. Senator, let me ask you this: If the upper basin States deliver this water to the lower basin, and they do not utilize it and cannot utilize it, has not the upper basin fulfilled its contract?

Senator MURDOCK. It has with the lower basin. Now, the question in my mind is, Under the language of the compact here, which says in paragraph (c)—

and if such surplus shall prove insufficient for this purpose—

that is, in supplying the treaty with Mexico—

then the burden of such deficiency shall be equally borne by the upper basin and the lower basin—

The CHAIRMAN. I understand that.

Senator MURDOCK. The point in my mind is this: That if the lower basin States can claim entire credit for the return flow of water to the Colorado River above the point where we measure it to Mexico, then the burden for furnishing virgin flow to make up the balance to Mexico must come from the upper basin States.

The CHAIRMAN. I cannot see that point. I do not know; you may be right.

Senator MURDOCK. I hope that I am not right. What I want to do is clear up that point.

The CHAIRMAN. I cannot see that at all, because if the upper basin delivers 7,500,000 acre-feet to the lower basin, it has fulfilled its obligation.

Senator MURDOCK. To the lower basin.

The CHAIRMAN. To the lower basin.

Senator MURDOCK. But, my dear Senator, as has been stated by the witnesses, the upper basin has not only granted to the lower basin a primary water right in the Colorado River of 75,000,000 acre-feet over each 10-year period, but now we are confronted with the fact that the United States Government—that is, the State Department—wants us to enter into a treaty whereby we guarantee now, along with the guaranty to the lower basin, another 1,500,000 acre-feet of primary water.

The CHAIRMAN. I do not believe the burden of that should be borne by the upper basin.

Senator MURDOCK. Neither do I. That is the point I want to have cleared up.

The CHAIRMAN. If you deliver that 75,000,000 acre-feet to the lower basin and they do not use it—and that is what your question is predicated upon; that they do not use it—and the flow is delivered back to the river below the point where it can be used, how in the name of common sense can the lower basin claim any credit for that water?

Senator MURDOCK. I hope that the Senators from Arizona and the Senators from California will join with the chairman in assuring the upper Basin States that that is not the case.

Senator AUSTIN. I wish to ask the Senator from Utah if this is what he means—that he is dealing solely with a computation to occur between Mexico and the upper and lower basins, in which the lower basin has already delivered its proportion, and more too, of this apportionment of water in case of drought.

Senator MURDOCK. By the return flow; that is exactly it.

Senator AUSTIN. That is the question.

Senator MURDOCK. That is exactly it.

Senator AUSTIN. In other words, as you see it, this return flow water, whatever it amounts to, is credited to the lower basin and not credited to the upper basin on that particular obligation?

Senator MURDOCK. That is right; that is it exactly.

The CHAIRMAN. Most of the water comes from the upper basin?

Senator MURDOCK. All of it. Well, there is that which comes from Arizona and some from New Mexico, but the great quantity of water, almost all of it, comes from Colorado, first; Utah, second; and Wyoming.

The CHAIRMAN. Well, why could you not claim, just as well as the lower?

Senator MURDOCK. Because—

Senator McFARLAND. They do.

The CHAIRMAN. I do not want to argue the matter.

Senator MURDOCK. The reason is this—that we get full credit and full benefit at Lees Ferry, in supplying the lower basin with any return flow that comes in; the upper basin gets credit for that. Now, of course, that water is of such quality that it will be rediverted in the lower basin, they will get full use of it; but here we find the lower basin, with the engineers—if Mr. Tipton is right and Mr. Ryder, I think—that the return flow of the lower basin is going to be 930,000 acre-feet of water which the lower basin can get no further benefit from; they are through with it; but, as Senator Austin has pointed out, if they can get full credit for that in their return flow, although they cannot use a drop of it—and then it places, in my opinion, an inequitable and I would say an unreasonable burden on the upper basin States to make up the difference in what that return will be, and the entire obligation to Mexico.

The Chairman. We are not dealing in the treaty with the upper basin and the lower basin.

Senator MURDOCK. No.

The CHAIRMAN. The only addition the treaty envisages is in the case of a new drought, and in that event the water in Mexico should be reduced comparably to that in the United States, and one-half of the deficiency should be borne by the upper basin and one-half by the lower basin, regardless of the point that you make about the return flow.

Senator MURDOCK. Oh, no, Senator; you are overlooking this fact—that when the lower basin—of course, we cannot deal with this question in this treaty, but it becomes of paramount importance to the upper basin if after the treaty is ratified we find ourselves confronted by Arizona, and Arizona telling us, "Here, we have more than filled our obligation to Mexico by a return flow of 930,000 acre-feet;" and we say, "Yes, but that is water that cannot be used in the lower basin," and they come right back to the compact and say, "Notwithstanding the fact that we cannot use it, it comes within the definition of what is beneficially consumed water."

The CHAIRMAN. I agree with you on that.

Senator MURDOCK. Exactly.

Senator McFARLAND. On the other hand, I want to say to the Senator from Utah that certainly Arizona takes the position that we are entitled to credit for a return flow. I do not believe anyone would hardly deny that—that we are not entitled. When you say "consumptive use," it is water that is consumed; and when you put water back in the river, why, you are entitled to the credit for it, and I would not want anyone to labor under any misapprehension as far as the law or our position is concerned.

Senator MURDOCK. And you are serving notice right now, as I understand it.

Senator McFARLAND. I am serving you with notice right now.

Senator MURDOCK. That so far as Arizona is concerned, Utah, Wyoming, Colorado, and New Mexico—

Senator McFARLAND. No; I am not going to say anything about Utah, Wyoming, and Colorado. All I am going to say is that we are serving notice right now that we are going to claim that we are entitled to be charged with consumptive use only; and if we return some water back to the river which is used, why, we are entitled to credit for it. We are not proposing to share the whole burden of this thing, at all.

Senator JOHNSON of California. There is a way out of all of our difficulties—just take California's water supply.

The CHAIRMAN. Go ahead, Mr. Witness.

Senator DOWNEY. Mr. Chairman, in connection with this, I would like to ask a question or two, if I may.

Assume, Mr. Godbe, there were a return flow, we will say, around 1,000,000 acre-feet of water, which indirectly, then, would charge the upper basin States with that amount, in filling the losses to Mexico. Now, assume that some international tribunal might find that because of the salinity of maybe half of that water is the extent that it could not be used by Mexico, so that an international tribunal would not give credit to the United States for the delivery of part of that water; then the whole situation would be much more complicated, would it not?

Mr. Godbe. Definitely; yes.

Senator DOWNEY. And in connection with that are you aware of the fact that while the engineers for the State Department have been figuring salinity at Yuma and other places based upon about a 12,000,000 acre-foot run-off from Mead Dam, that when that run-off is down to six or seven or eight million acre-feet the same amount will be carried and the salinity will be thereby greatly increased?

Mr. Godbe. Absolutely; yes.

Senator DOWNEY. Now, I believe that under a very able decision made by Judge McFarland, of Arizona—which is the leading case in the United States on it—

Senator McFARLAND. Thank you.

Senator DOWNEY. That we in California, judged by our law, which would probably be followed in the Supreme Court of the United States, that we, the lower basin States—

Senator McFARLAND. Senator, let me interrupt you: I hope the California policy—

The CHAIRMAN. Just a moment. The Senator is supposed to be testifying. We have not reached the argument.

Senator McFARLAND. Well, pardon me. I apologize to the Chair. I just wanted to joke a little with the gentleman from California. I beg the chairman's pardon.

Senator DOWNEY. I would say that under the decision made by Judge McFarland in the very famous case in Arizona dealing with salinity or salt balance in the United States, the citizens of the United States feel as if they would be entitled to credit against Mexico for the total of water even though some of it were not usable; but if an

international boundary arbitration should hold that Mexico was not charged with it, then the upper States, including Wyoming, might find themselves in a very unhappy position.

Mr. GODBE. Exactly, Senator Downey.

The CHAIRMAN. This is all predicated on an arbitration treaty or something, on which this award would be made, not under the treaty that you are talking about now.

Mr. GODBE. Yes, sir. The statement I wish to make is this—that we have got a peril of not merely 1,800,000 acre-feet in the treaty itself, but on the point that Senator Downey just brought up, we see the peril to us of the loss of 2,400,000 acre-feet, which would consist of 1,500,000 acre-feet allotted under the treaty, and possibly under the situation he mentioned, of arbitration, of 900,000 acre-feet more.

The CHAIRMAN. Would you not have an arbitration danger? Would it not be greater without the treaty than it would be with the treaty?

Mr. GODBE. Oh, on the contrary, sir. This is just a matter of personal opinion, but it seems to me that we know very well what the rights are, and I think Mexico knows, so we could only lose.

The CHAIRMAN. I did not ask you that; but if you do not want to answer, we will proceed.

Mr. GODBE. We could only lose.

The CHAIRMAN. Well, you will not answer the question. Go ahead, somebody.

Senator MILLIKIN. Mr. Chairman—

Mr. GODBE. I have but just one more statement. I might forget it.

Senator MILLIKIN. All right.

Mr. GODBE. Excuse me, sir. The position of Utah at least in this dispute is this: We see not only the danger that Senator Murdock has spoken of, although I confess that that viewpoint was entirely new to me, but I think it is a very forcible one.

Senator MURDOCK. I found it was new to others who have considered it, too. It is the one thing that impressed me immediately on reading the treaty.

Mr. GODBE. That, as I say, is something entirely our own. I wanted to add this—that we see that we are between two dangers in this treaty matter. We are not allies of the lower basin; we are not allies of California. We happen to be united now because we are fighting an intruder in our own little family quarrels, but we see the danger here that we will be pinned perhaps between two pressures by the lower basin alone, without bringing in Mexico; without bringing in Mexico, with a guaranteed firm right; without taking and adding onto the bottom of this bucket another hole that we have got to fill up before we have any water. Thank you, sir.

The CHAIRMAN. All right. Are there any other questions? You may proceed.

Senator MILLIKIN. Senator, I would like to ask some questions.

The CHAIRMAN. Senator Millikin.

Senator MILLIKIN. I gather from the early part of your testimony that you felt that those representing the upper States in the negotiation of the compact had been somewhat profligate with the interests of the upper States.

Mr. GODBE. Very definitely, sir.

Senator MILLIKIN. At the time of the compact, how much water were we actually using in the upper States?

Mr. GODBE. I do not know. I do not know what the use of water was, and I do not know what it is now, but I do know this—that the amount of use, of increased use, since the date of the compact is recognized on all sides as being practically negligible.

Senator MILLIKIN. All right.

Mr. GODBE. Although other uses are around the corner.

Senator MILLIKIN. What was the maximum water that went by Lees Ferry during the depression year—or the minimum amount of water that went by Lees Ferry during the depression?

Mr. GODBE. Trusting to my memory, sir, which may be inaccurate, I think it was around 4,000,000 acre-feet.

Senator MILLIKIN. I think it was 10. I suggest it was 10.

Mr. GODBE. In the low year?

Senator MILLIKIN. Yes.

Mr. GODBE. If you would excuse me a moment until I get to my brief case, I have the figures which support this chart.

Senator MILLIKIN. I am not sure that that is necessary. We can both look it up. The point of the compact, from the standpoint of the upper basin States, was that we were not in position to make the user of the water that the lower basin States were in and thus mature our rights in the upper basin States as against the rapidly maturing rights of the lower basin States.

Mr. GODBE. We did not need to give them a firm right. We could have given them a percentage right.

Senator MILLIKIN. Well, am I right in that?

Mr. GODBE. I assume so; I do not know.

Senator MILLIKIN. Was not our problem at that time to get the best that we could, considering the fact that we were not in position to mature a water right by user?

Mr. GODBE. Certainly, we wanted to do the best we could.

Senator MILLIKIN. And is it not a fact that at the present time we are only using some portion of the total amount that we are entitled to under the compact?

Mr. GODBE. I think that that is certainly so.

Senator MILLIKIN. Yes; and the point that I want to make is that we were not sitting there free to bargain any way that we cared to with the lower-basin States; we had to make a deal; we had to make a deal that would give us time to develop our water and to put it into use. They were using it. They were in the same position that Mexico is in today. They were making an expanding use of the water which some day might slap us in the face. Now, I had nothing to do with the negotiation of the compact, but I suggest that it is perfectly evident why we made the deal that we did make, and I suggest that on the face of it we made a pretty good deal.

Mr. GODBE. Well, that is where opinions differ, sir.

Senator MILLIKIN. Yes.

Mr. GODBE. I would say they had not made a good deal, because they gave a firm right, and I do not think that they had to do it; but that is just a matter of opinion, because under the compact that is the fact. It is now the basic water law.

Senator MILLIKIN. That is a matter of opinion.

Mr. GODBE. And whether it is good or bad, we have to accept it.

Senator MILLIKIN. Will you not agree with me that the lower-basin States were making a more rapid and far more rapid development of the water of the stream than we were?

Mr. GODBE. Oh, yes. Oh, yes.

Senator MILLIKIN. And that presented us with an acute necessity for making a deal?

Mr. GODBE. Of course, there is always a necessity of protecting your interests.

Senator MILLIKIN. That is right.

Mr. GODBE. But minds differ as to how it is necessary for them to be protected after a document is signed.

Senator MILLIKIN. Well, I merely wanted to suggest to you that as a minimum your interpretation that would assign to our representatives in making that compact "profligacy" is at least subject to very, very serious question, and I believe it could be contended very strongly that they made a very good deal.

Senator McFARLAND. If I might interject this, I really thought that you fellows out-traded us.

Senator MILLIKIN. Mr. Chairman, I want to ask one more question.

The CHAIRMAN. Now, Senators, you will have to hurry along, because we have one more witness that we promised to hear, and he is going away tonight; another Utah witness.

Senator MILLIKIN. I am going to ask just one more question, if I could get an answer to it.

The CHAIRMAN. All right.

Senator MILLIKIN. Taking this selected period of drought that you have picked, here, and I am not arguing with you whether you should have picked that period or some other period——

Mr. GODBE. I did not pick it. It was picked by the United States Geological Survey.

Senator MILLIKIN. Well, whoever picked it, I am not arguing about that. Taking the selected period that you have picked, or that someone has picked, to illustrate your point, is it not the only solution to that the reservoir program we have been discussing here today?

Mr. GODBE. Whether that is a solution or not, I do not know. Certainly it is a palliative.

Senator MILLIKIN. Will it not carry us the farthest along the road to a solution of anything that we can do?

Mr. GODBE. Why, of course; yes. Yes, every storage reservoir we can build and fill with water, we are that much better off.

Senator MILLIKIN. Have we any alternative in the upper basin except to pursue that policy, if we want to keep our water?

Mr. GODBE. That is the point; we must not give away water, now, to anybody else that we do not have to give.

Senator MILLIKIN. I am not talking about giving it away. I am talking solely to the points of reservoirs. Have we any alternative but to build our reservoirs if we want to use the water that is allocated to us by the compact?

Mr. GODBE. We have no alternative. We must have a reservoir program, but we have got to fill the reservoirs. That is the problem.

Senator O'MAHONEY. Mr. Chairman.

The CHAIRMAN. Senator O'Mahoney.

Senator O'MAHONEY. I think it very important to have a clear understanding of the point raised by Senator Murdock, and I should like to ask the witness a question or two on that basis. The Senator has referred to article 3 of the compact, of which subparagraph (c) reads as follows:

If as a matter of international comity the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantity specified in paragraphs (a) and (b)—

paragraphs (a) and (b) being the paragraphs which divide the waters between the upper and the lower basins.

Mr. GODBE. I am familiar with them.

Senator O'MAHONEY (quoting) :

and if such surplus shall prove insufficient for this purpose then the burden of such deficiency shall be equally borne by the upper basin and the lower basin, and whenever necessary the States of the upper division shall deliver at Lee's Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d).

Assuming a condition of return flow mentioned by Senator Murdock, namely, 930,000 acre-feet, as being water that could not be used in the lower basin, and therefore water which would be delivered to Mexico, would that be regarded, or not, as surplus water?

Mr. GODBE. What the answer would be to that of course I do not know. I only know this, that whatever position is taken by the engineers we see the likelihood that we are going to have to pay the largest part of it.

Senator O'MAHONEY. Now, please answer my question, won't you, because there is no sense getting off into an argument.

Mr. GODBE. I missed the first part of it.

Senator O'MAHONEY. If 932,000 acre-feet of return flow is not usable in the lower basin, shall that be regarded, or would that be regarded as surplus water under this clause?

Mr. GODBE. Why, no; no.

Senator O'MAHONEY. No. The upper basin has not had it?

Mr. GODBE. No.

Senator O'MAHONEY. The lower basin has not had it?

Mr. GODBE. That would be California's water, as I understand it, the lower basin.

Senator O'MAHONEY. But according to the Senator's assumption they could not be used by California. They are return flow, not capable of use in California. Would they not go to Mexico?

Mr. GODBE. Yes; it would go to Mexico.

Senator O'MAHONEY. All right, then; if you deduct 932,000 feet from 1,500,000 acre-feet, you have left, 568,000 feet. Would it be your interpretation, or not, that under this clause the burden of delivering that 568,000 feet shall be equally borne by the upper basin and the lower basin, under the words of this compact?

Mr. GODBE. Yes.

Senator O'MAHONEY. Is that true?

Mr. GODBE. Certainly; I think that is what we would contend.

Senator O'MAHONEY. Yes; and then to read the rest of it—

Whenever necessary the States of the upper division shall deliver at Lees Ferry water to supply one-half of the deficiency—

which would mean 284,000 acre-feet on the basis of the assumption that was made?

Mr. GODBE. That would be so. However, let me point this out. We are apprehensive about the whole situation.

Senator O'MAHONEY. Oh, I know. I am apprehensive, too.

Mr. GODBE. Yes.

Senator O'MAHONEY. But I am just trying to get the facts.

The CHAIRMAN. Stick to this point and not the whole proposition. We have been over the whole proposition several times, but stick to the question the Senator asked you.

Mr. GODBE. Let me see if I have that clearly in my mind. The Senator asked under the assumption that the return flow, unusable in California would amount to some 932,000 acre-feet?

Senator MURDOCK. It is unusable by either California, Nevada, or Arizona?

Mr. GODBE. By the lower basin to all those States.

Senator MURDOCK. It is unusable water?

Mr. GODBE. If we assume that under this treaty that is credited to Mexico, then he asks whether or not it would not be true that half of that deficiency would amount to some 234,000 acre-feet; as a burden upon the upper basin; and I say yes, I say that is so.

Senator O'MAHONEY. And if 1,500,000 acre-feet is delivered to Mexico, that water has virgin flow or return flow, and it is to be computed as part of the 1,500,000 acre-feet, if we were in the position of having to meet that situation? That is what the upper basin would contend?

Mr. GODBE. Certainly, that is what we would contend.

Senator O'MAHONEY. Well, is it not more than a contention? Is not that the plain meaning of the language?

Mr. GODBE. No, sir; I do not think the language is plain. I think there is considerable doubt about that.

Senator O'MAHONEY. Well, would you contend then that under this language the return flow of 962,000 acre-feet could be delivered to Mexico; that on top of that 500,000 acre-feet of surplus water could be delivered, and that in addition to that there would be another burden upon the lower and the upper basins?

Mr. GODBE. I think there is very grave danger of just that.

Senator O'MAHONEY. I wish that you or somebody would cite the specific terms of the treaty or the compact by which it can be asserted that more than 1,500,000 acre-feet must be delivered if part of that amount is return flow. In other words, my feeling is that if 952,000 acre-feet of return flow, which is water that cannot be used in the basin anywhere, is delivered to Mexico, then under this treaty no claim can be made about it by Mexico upon the upper basin or upon the lower basin for more than 568,000 acre-feet, and that will have to be divided equally between the lower and the upper basin?

Mr. GODBE. No; we were making some assumptions there, Senator, if you please.

Senator O'MAHONEY. Well, I made the assumptions on the question that was originally propounded.

Mr. GODBE. Yes. Well, I am going to assume that Mexico says:

This 922,000 acre-feet of water is not fit for use, and under this treaty you guaranteed us 1,500,000 acre-feet of water in fairness and good faith, and so of course we assume that you meant usable water, so now we want not only the return flow of 922,000 acre-feet, but we want 1,500,000 acre-feet of virgin flow of river, too.

Senator O'MAHONEY. Well, could we not say to Mexico, "All right. Build some facilities to remove the silt; aerate your water."

The CHAIRMAN. Are there any other questions?

Senator DOWNEY. Mr. Chairman, I did have a question.

The CHAIRMAN. Let us have some questions. I want your questions, Senator.

Senator DOWNEY. Yes; I have a question.

The CHAIRMAN. Please do not argue with the witness. We have another witness.

Senator DOWNEY. I do not intend to argue with the witness.

The CHAIRMAN. We have another witness that has to leave tonight. He is anxious to get on, and I promised to let him testify.

Senator DOWNEY. Mr. Godbe, does not Senator O'Mahoney's question entirely ignore one very essential factor of any rational problem, and that is, whether under the general delivery of the water the particular 960,000 acre-feet of return flow would be characterized as surplus water or not surplus?

Mr. GODBE. Yes, sir.

The CHAIRMAN. Your answer a while ago was that you would regard it as surplus, as I understand it.

Mr. GODBE. If I said that, I am sure I never intended to.

The CHAIRMAN. You withdraw that? All right, go ahead.

Senator McFARLAND. I do not regard what Mr. Godbe might say as binding, as to any interpretation, here; therefore I do not want to go into that, and I am sure he would not want to be bound too closely by legal interpretations.

Mr. GODBE. I am not an expert.

Senator McFARLAND. Well, I thought that is what your position would be. But I do want to say that at all times, and I think it is the law, now, under the compact, that Arizona is entitled to credit for its return flow. Beneficial use is beneficial use, and that is our position now, and it will be our position all the time.

The CHAIRMAN. All right, Senator. That is your observation.

Senator WILEY. One hundred percent correct?

Senator McFARLAND. The return flow testimony.

The CHAIRMAN. All right. Mr. Watkins.

Senator MURDOCK. While Mr. Watkins is coming, Mr. Chairman, the statement just made by the Senator from Arizona is the statement that I am apprehensive about, that the two Arizona Senators would take that exact position.

The CHAIRMAN. Senator, the stenographer will make a note that you object, as well. I do not believe we are going to be able to settle all of these interpretation matters.

Senator McFARLAND. I do not want to do that. I just wanted my position to be made clear.

The CHAIRMAN. Treaties do not react as between States, as I understand. All right, Mr. Watkins.

STATEMENT OF ARTHUR V. WATKINS, GENERAL COUNSEL, PROVO RIVER WATER USERS ASSOCIATION, PROVO, UTAH

The **CHAIRMAN**. State your name and whom you represent? First, how long will it take you to finish your presentation?

Mr. WATKINS. You have got into a field of discussion that I intended to go into as a lawyer, raised by Senator Murdock and Senator Millikin—

The **CHAIRMAN**. We have had a great many legal dissertations here. I asked you how long it would take you to finish your statement.

Mr. WATKINS. My part of it will take half an hour, if there are no questions asked.

The **CHAIRMAN**. We will try not to ask you any questions until you get through.

Mr. WATKINS. My name is Arthur V. Watkins. I reside at Provo, Utah. I am general counsel for the Provo River Water Users Association. I appear not only as one of the authorized representatives of that association, but in my capacity as a citizen, a farmer, an irrigator, and a user of irrigation water from the Provo River project which will get one-third of its water supply from a tributary of the Colorado River.

I have served as judge in Utah State courts, and most of my practice for the last 25 years has been in connection with water and water rights. I lived many years of my life in northeastern Utah which supplies most of Utah's contribution to the flow of the Colorado River.

This association, through contract with the United States Bureau of Reclamation, is furnishing a supplemental water right for domestic, industrial, and irrigation uses for approximately 60 percent of the population of Utah located in central Utah, and more specifically in Salt Lake, Summit, Wasatch, and Utah Counties.

In view of the discussion which has taken place, I probably cannot finish all that I have to say tonight.

The **CHAIRMAN**. You can finish it tonight.

Mr. WATKINS. I will be glad to stay as long as anyone.

I want to take up the discussion of the matter of return flow. I wrote all of this prior to the discussion here today. I state that one reason why I am against this treaty is that it is prematurely made. We are not in position to make that kind of a treaty. We are risking too much in the future on what are merely guesses of engineers and others and some guesses on the law.

No one knows yet how much return flow there will be from Arizona projects. All evidence given to date is based on assumptions, estimates, and speculations with a wide divergence of opinions. Engineers do not agree as to the amount of the return flow—where it will be available, what its quantity will be, whether Arizona will use it, or whether it may be pumped up into the All-American Canal and used in California.

Also, all concerned should not forget the warning of Senator McFarland that no State should expect any help from the return flow out of Arizona's Colorado River water because Arizona would see to it as far as possible that there wouldn't be any get back into the Colorado.

Since then you have heard his statement that wherever it goes they claim credit for it.

That she would have the right to recapture and use this return flow as many times as possible is supported by sound legal principles and the policy of the Bureau of Reclamation which at times uses return flow as part of water supply for its projects. Federal cases can be cited if desired which sustain these conclusions.

Even the return flow from upper basin uses is open to question. Projects in that region will divert a large portion of the 7,500,000 acre-feet through tunnels to other watersheds and drainage areas where it is a physical impossibility to get any return flow out of it back to the Colorado.

It has been pointed out several times that it might be pumped into the All-American Canal. The price to pay for water will not be any determining factor. What is to prevent Arizona from selling to California, to be used in the All-American Canal, this water? She has a right to it. She has a right to recapture it. If she does that, then California can take some of the water out of her 75,000,000 acre-feet, plus the other million, and use it somewhere else in the State. The least that can be said for this is that it presents a problem which, in my humble opinion, will result in litigation to determine whether she does or does not have the right to do what Senator McFarland has suggested.

My belief is that they will have that right, in view of my own studies of return flow. If litigation is to happen, who is going to decide whether that is right or wrong, whether she can claim it and sell it to California or anyone else or take credit for it?

As I read this treaty, and as I read Dean Roscoe Pounds' analysis of it I am puzzled to know who would decide it. But if it is finally determined, the decision is final and cannot be reviewed by the courts or Congress or anybody else, as I read it.

So I renew my objection that the treaty is premature; that it has not been made sufficiently clear that we are put into a position where we can make a treaty that will take care of all these problems.

I think Senator Murdock has rendered a service here in bringing this discussion before this committee.

In addition to that, I want to discuss the return flow in the upper basin States. I heard engineers state in this hearing that it would be part of the flow that would come down to take care of the upper portions that would have to be turned over to the lower basin, return flow from the waters used in the upper basin States.

The Bureau of Reclamation wrote a report which is marked "Confidential," but the news seeped out that they are planning many trans-mountain diversions; and, of course, you gentlemen know that that means taking the water from one watershed and putting it in another where it is physically impossible for it ever to get back into the original watershed.

It should also be remembered that in each reuse of water a large part is consumed so that the return flow progressively decreases.

It strikes me that this is a vague, uncertain water supply to base a policy on which is irrevocable, not subject to amendment, and will last forever.

Why should not such an important matter as this be delayed until sufficient facts are known so that an intelligent and safe policy which will fully protect American interests may be adopted?

If we were to get everything cleared up on the river we will get into a controversy as to whether Arizona is claiming this water or not, or whether we can use it to make up our obligation to Mexico.

I am now engaged in a case, the final stages of it, that has been in court 24 years, three times on appeal to the Supreme Court of the State of Utah; and that is only an average record for a great many water suits, as most water lawyers will tell you. So it might be a long time before it gets cleared up. And it has been suggested that we wait until these matters are cleared up before the Bureau will go ahead in the future. It has not hesitated in the past. So, let us not get into the problem of concluding such a treaty.

The CHAIRMAN. You think if we take 24 years to negotiate this treaty it would confute your argument of its having been made prematurely?

Mr. WATKINS. I have seen engineers make estimates on projects—

The CHAIRMAN. I withdraw the question, if you are going to argue it.

Mr. WATKINS. I was trying to answer it, Mr. Chairman.

My colleagues from Utah, Mr. Harris and Mr. Godbe, have discussed various phases of the treaty as it affects the United States and Utah. Mr. Harris, by the questions brought out, has covered some of the ground that I intended to cover, but I intend to make a different approach to it.

The fact that not as much of the water of the Colorado allotted, or which may be allotted to Utah, may be involved, does not in any way minimize its importance.

A few matters of background should help to understand Utah's position.

Notwithstanding the pioneers who settled Utah had the distinction of being the first Anglo-Saxons in America, so far as is known, to apply water to agricultural uses by way of artificial irrigation, Utah has not made great progress in the quantity of her irrigation for the simple reason that water resources are so very limited.

Up to date only some 3 percent of Utah's lands have been irrigated. Streams in Utah, outside of that portion of the State lying within the Colorado River Basin, are small rivers and creeks running from its mountains through steep and narrow canyons and gullies with reservoir sites at a minimum.

The principal part of the flow comes early in the spring when crops are not needing moisture and is lost for later use when it is badly needed.

The last partly undeveloped source of water supply of any consequence for Utah is the Colorado River and its tributaries. All projects on this river within the State and within the resources and the ability of the people to build have been constructed. During the time of heaviest demand, the crop-growing season, practically all of the Colorado tributaries in Utah are dry below the last canal diversion.

Only floodwaters which run for a short season in late spring and early summer remain to be put to use.

There are many thousands of acres of excellent land along the Colorado in Utah, which could be irrigated with water pumped from the Colorado when cheap electric power is available. There are many other thousands of acres in northeastern Utah susceptible of irrigation

from tributaries of the Colorado. In this same watershed lie immense deposits of rich oil shale, coal, and other hydrocarbons which some day will be developed and processed to meet the Nation's needs. The oil shale is probably one of the Nation's greatest untapped sources of oil and will assume great national importance as our other supplies are depleted.

Industries growing out of the processing of these resources will require large amounts of water for consumptive use. Utah, also, during the current war, has come to the front as a war industrial center with her heavy production of vital war materials such as coal, copper, zinc, lead, and steel.

Numerous Navy and Army supply depots have been established on what is claimed as a permanent basis.

All these developments and more to come call for more and more water. And the Colorado River is Utah's last hope for water.

No development, either industrial or agricultural, can take place without it. Even though she may not be called upon to make a very large contribution to supply Mexico with waters under the proposed treaty, it should be borne in mind that remaining water projects to be built in Utah will involve large sums of money which can only be supplied under the United States reclamation law. Whether or not these projects will be considered feasible from an economic point of view depends among other things on the point of firm water supply available and this cannot be emphasized too strongly. A water project cannot be built entirely on an average flow basis unless the storage reservoirs are of enormous hold-over capacity far beyond the annual requirements. If held too long evaporation becomes an important factor to be reckoned with. Economic safety requires that there be a steady firm supply in all years, and particularly is this true for drought years. In fact, the real measure of the worth of a water supply is what it will yield in drought periods. If the supply fails, then all can be lost in many types of industry and agriculture—the country dries up and activity ceases. We have had in Utah, as elsewhere, water projects which were built in years of wet cycles, only to prove unsound when the dry cycle came. People on these projects have been moved by Federal relief agencies to locate where the water supply was better. In fact, most of Utah's irrigated lands, even those with the highest drought rights, have severe water shortages in ordinary, not extraordinary, droughts. That is why the reclamation project which I represent supplies supplemental water only to its subscribers. Most of those early projects were built on the advice of engineers who proved to be too optimistic.

Also the water supply must be reasonably certain or the project is not considered feasible from an economic point of view. It cannot be built on speculation. The margin of safety is very close on some Utah projects already built and these yet to be built.

The giving up of 150,000 or 100,000 or 50,000 acre-feet of water in time of drought to supply a guaranteed lower river right could well rule a proposed project out, or seriously impair one which has already been constructed. The larger releases, of course, in drought years (and we may say in semiarid States that drought is almost a permanent condition) would be all the more damaging.

Utah cannot afford to give up any of its Colorado River rights—its margin of safety for existing rights, not to mention new projects, is already entirely too narrow.

There was a time when some unthinking persons said Utah would never use her share of the Colorado River, because of the physical difficulties of getting water on to available land which mean high costs. So some projects were considered infeasible. But post-war planning and wartime industry in Utah has opened up new vistas of future industries utilizing Utah's numerous and vast supplies of raw materials has changed all of that. Engineers—some from the United States Reclamation Service—who only a few years ago said Utah could not use all her share of the Colorado are now enthusiastically planning new projects which will use every drop and more of that water.

Also transmountain diversions away from the Colorado watershed loom big in the future developments in the upper basin States in Colorado and on a fair scale in Utah. This is true on a large scale.

From such projects there will be no return flow to the Colorado so glibly talked of by engineers as a part of the supply of 75,000,000 acre-feet every 10 years which the upper basin States have guaranteed will reach Lees Ferry. Upper basin States will have extreme difficulty meeting the guaranties of the Colorado compact without having to supply water to help make the guaranty to Mexico good. The so-called escape clause—Mexico to go down with other users in times of extraordinary drought—will not be of real help because that term does not describe ordinary drought cycles which occur with regularity.

My colleague Mr. Godbe has, or will, present in a statement how, as a practical matter, the treaty will affect Utah's portion of the Colorado River and their relationship, or lack of it, to American rights and principles of equity and comity.

I would like to review, before I go on to the next division of my presentation, America's historic position in connection with Mexico.

The United States has consistently held to the doctrine laid down by the Supreme Court of this country when it said:

The jurisdiction of the Nation within its own territory is necessarily exclusive and absolute. It is susceptible of no limitation not imposed by itself. Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty to the extent of the restriction, and an investment of that sovereignty to the same extent in that power which could impose such restriction. All exceptions, therefore, to the full and complete power of a nation within its own territories must be traced up to the consent of the nation itself (*Schooner Exchange v. McFadden*, 7 Cranch, p. 136).

Following this declaration of the Supreme Court, the Attorney General of the United States, Judson Harmon (21 Op. Atty. Gen. 274) in response to a request made by the Secretary of State for an opinion held that Mexico had no legal right as a matter of international law to the continuance of the flow of the upper Rio Grande for Juarez Valley; that the United States had, as a part of its territorial sovereignty, the supreme right to use the river as it saw fit.

Further, applying the principles announced by the Supreme Court, the United States has through Secretaries of State Alvey A. Adee, Elihu Root, Dr. Elwood Meade of the American Section of the International Boundary Commission, and former Chief of the United

States Bureau of Reclamation Herbert Hoover officially representative of the United States in the negotiations and execution of the Colorado River compact, the Committee of the Seven Colorado River Basin States, stood firmly on this declaration of principle in all dealings with Mexico and with the States of the Colorado River Basin. In fact, no one in this country has ever challenged successfully the legal right of the United States to the use of all of the waters of the Colorado River. And remember in this connection that all the water in the river is contributed by the United States; that 1,700 miles of the river are in the United States and only 50 miles in Mexico. It was in full recognition of this right that the Colorado River compact was signed by the States of the Colorado River Basin and approved by Herbert Hoover, official representative of the United States.

I want to make it as definitely clear as I can that it was on that basis that the United States would stand pat on that principle that it owned the water. I am aware that others have taken a different position, I believe, sincerely so, that in order to protect our rights we must sign a treaty with Mexico. Some of these witnesses have stated that they feared certain things might happen, and I believe that that has influenced the drafting of the treaty, and I want to try to point out the reasons why this treaty has been put forward at this time.

The treaty was conceived and drafted, in my opinion, in an atmosphere of fear of what might happen in the future if it were adopted, and is not in fact based on the protection of rights of the United States and principles of equity and comity.

Some of the proponents of the treaty illustrate this statement. They say that the treaty should be ratified because:

First. They fear Mexico will not take any less water than the treaty gives.

Second. That if the treaty is not ratified they fear that Mexico will go on using more and more water beneficially, thereby acquiring a still larger right to water of the Colorado.

Third. They fear that Mexico will then submit the whole question to arbitration under an arbitration treaty adopted in 1929.

Fourth. They fear the arbitrators making up the arbitration commission will give much more water to Mexico than the treaty gives her.

Let us examine the four fears.

Fear No. 1. That Mexico will not agree to take less than 1,500,000 acre-feet of water.

With all due respect to our State Department officials who negotiated the treaty, I believe the circumstances surrounding the matter justify the conclusion that fear No. 1 is groundless. Why do I say this? Because I believe a treaty establishing rights in the waters of Colorado is absolutely essential to Mexico and not to the United States for the following reasons:

First. The water belongs entirely to the United States and is within her control. Mexico has also in times past taken the same position with respect to those waters of the Rio Grande which are contributed exclusively by Mexico.

Second. Mexico has not a practical site within her own boundaries for diversion of water from the river and she does not now own and never has owned a site or diversion works with which to divert the water she gets from the river.

Third. She knows that without the control and regulated flow of the river by the United States she can never build a permanent agricultural or industrial economy. Floods and silt deposits from an unregulated river make a permanent economy impossible.

Fourth. She needs cheap power for pumping water on part of her lands where other means of diversion are impracticable. She has not any power sites on her part of the river. Mexico has the best chance to get this power by means of a treaty and she is not in a position to dictate terms.

Fifth. Mexico realizes, or should realize, the weakness of her claims to the waters of the Colorado when she insists (and we are reliably informed she has insisted and still insists) that she will not make a treaty on the Colorado unless the Rio Grande is also included. It ought to be obvious that she realizes the weakness of her position on the Colorado and is using the Rio Grande situation to bolster her claims on the other river.

Sixth. She knows that because she has done practically nothing to help with flood and silt control on the river, and that she has let Americans pay the full cost not only of river control but has also forced them to divert at their expense through the Alamo Canal most of the water she has used from the river in the past for the right to run a canal some 50 miles through her territory, that she is not in a very favorable position to go before an arbitration commission with her claims. In other words, she knows, or should know, that equity is not with her. She probably fears arbitration as much as some Americans do.

Fear No. 2. That Mexico (without a treaty) will go on using more and more water from the Colorado and by such beneficial use will establish a legal right to more water than the treaty calls for, perhaps as much as four or five million acre-feet, I think Mr. Carson of Arizona said: This fear seems to be based on the western doctrine of appropriation of waters through their beneficial use ahead of other users. It is sometimes called the doctrine of economic development.

This fear in my opinion is also without said foundation. My reasons are:

First, and foremost. Mexico has no right under international law to any of the waters of the Colorado. The reasons have already been given in the first part of this discussion and I shall not repeat them.

Second. Assuming for the purpose of this discussion, and for that purpose only, that Mexico has the right to appropriate and put to a beneficial use any of the unappropriated waters of the Colorado available to her, let us examine what her position is, or will be, under all the circumstances covering the use of water on the Colorado.

As to the claim for 750,000 acre-feet of water she admittedly used prior to the building of Boulder Dam, she could probably justify it on broad general principles under the doctrine of prior appropriation. But even this claim has weaknesses under that doctrine. Mexico has no point of diversion for that water. In fact she never has diverted any water which she gets through the Alamo Canal. It has been diverted by Americans on American soil under filings or claims, I am informed, made with the California Water Commission for the right to appropriate the water.

It is true she made the Americans let her use one-half the water brought through the canal, if she wanted to use that much, as a rental or a price and consideration for running the water used by Americans over her soil for some 50 miles. Under these circumstances there is strong argument, under the doctrine of appropriation, that the title to the water would belong to the Americans who made the diversion from the river. Under the water laws of my State that would undoubtedly be true. But as has already been said, the claim of Mexico to this 750,000 acre-feet can be justified only on the ground that she put it to beneficial use and has developed an economy based on that use.

As to acquiring the right, under the doctrine of appropriation, to use more water from the river after the building of Boulder Dam, I submit the following:

Mexico cannot increase her right by such use because the United States, beginning with the Colorado River compact, the enactment of the Boulder Canyon Project Act, and the actual beginning of the construction of Boulder Dam, began the appropriation of all the unappropriated waters of the Colorado River, and under the doctrine of relation the priority of this appropriation will be as of the date the work began on this project.

Let me amplify. The building of Boulder Dam was the first step in the plan for the comprehensive development of the river and the putting to a beneficial use all the unappropriated waters of the Colorado. From the international point of view, there are only two appropriations on that stream, Mexico and the United States.

Beginning with Boulder Dam, the United States, under the general principles of the customs of the West, first recognized in Mexico, and better known as the law of appropriation of waters by beneficial use, the United States has the right to proceed with its appropriation thus initiated until it has finally put all of the waters of the river to a beneficial use. It must use due diligence in doing so. Under this doctrine, the United States should have the right to a reasonable time, in view of all the circumstances and difficulties encountered. It may take a hundred years, possibly 200 years, no one knows how long. But whatever time it takes, if due diligence is shown, the priority will relate back to the time when the work was initiated. That is the law of appropriation of waters.

Beginning with Boulder Dam, the United States has moved ahead with her projects—Boulder, All-American Canal, Parker Dam, the Colorado-Big Thompson project in Colorado, the Provo River project in Utah, the Strawberry project. Others are in the stage of planning and surveys. The money is coming from Boulder Dam. That dam alone could not complete the work. All the other projects are tied in with it.

The Utah Supreme Court has held that 35 years was not too long under the conditions of the case where the amount of water involved was only 50 second-feet, the canal 6 miles long, on a shaly mountain-side, which required years of work to make the canal watertight. In this case the right was initiated before the statute requiring a filing with the State engineer to initiate a right was passed, and the law applied was the doctrine of appropriation as developed generally in the West under semiarid conditions.

Mexico knew that the United States was beginning the comprehensive development of the river when Boulder Dam was planned because she protested to the United States. Whether she knew it or not, she still couldn't acquire any right to the water simply because it was running unused into the gulf. Whatever use she made was subject to the prior right initiated by the United States.

As some of the Senators are probably not acquainted with our western water law, I might make this statement: It does seem foolish, in a way, to say that all this million acre-feet of water running into the gulf cannot be put to use by Mexico and that they have not a right to it by reason of the fact that she has beneficially used it. But that is a common practice in our States. A filing may be made 1 year, and it may take, as I have stated, 35 years, and everybody down that stream knows the custom—that that right may possibly finally be proved upon, as we put it, the water put to beneficial use, and a certificate issued—and everybody down the line has full knowledge of what is going on. Many towns or villages have been built down the line that have had to move. They have had to be relocated because they were in places where others had prior rights. That is not unknown in the West. It has happened before.

Fear No. 3. That the controversy between Mexico and the United States over the division of the waters of the Colorado will be forced into arbitration by Mexico unless this treaty is ratified.

Like the preceding fears, this one is likewise without substance, in my opinion.

First. Because it is inconceivable that any President and United States Senate would be willing to submit to arbitration a question that strikes at the very foundation of sovereignty, as this one would. It should be remembered that our arbitration treaty with Mexico contained a reservation that the questions to be arbitrated could in effect be determined by the President and the Senate.

Since the United States stand has always been, until this present treaty was negotiated, that Mexico had no legal right whatever to the waters of the Colorado and all she could ever hope to have would be those uses of the stream which we would give her as a matter of good will and comity, there seems no good reason to arbitrate the question of how much water the donor will give the donee in order to show the friendship of the donor. How would friendship and good will be promoted if we were required by a decision of some outside judges to give water to Mexico as a matter of comity? The question answers itself. None.

Second. The Colorado River compact binds the United States, as a matter of good faith with the Colorado Basin States, to stand firmly on the principle that Mexico has no legal right to any of the waters of the Colorado River, and that in the event she feels as a matter of international comity she ought to give Mexico some water to promote good will, she may do so on these conditions only, and the burden will be shared by the interested States as outlined.

Section C of article III of the compact provides:

If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado system, such waters shall be supplied * * *.

That provision clearly eliminates recognition of any legal right in Mexico to any of the waters of the river.

It also says in effect that only the United States can determine what ought to be done as a matter of comity. It did not in any way bind the States to give up any water to Mexico if and when an arbitration commission decided it should be done and in some specific quantity.

The mere asking of this question will test the matter of intent: Would any of the States have signed and ratified the compact if it had been interpreted to mean—and that had been made clear—that the United States would either decide itself how much, if any should be given or it would submit to arbitration by a commission of Latin Americans, not only the legal question of whether or not Mexico had the right to any of the waters of the Colorado, but the quantity she should get, also?

Their answer, of course, would have to be "No." Anyone who has dealt with water users of the West and knows how jealously they guard their rights, literally, even fighting to the death over water disputes, will confirm that answer.

Gentlemen, you have seen a demonstration of it here. We can get pretty warmed up over water in the West.

Senator WILEY. Firewater?

Mr. WATKINS. It does not have to be firewater. Firewater might help them get into that mood, but they fight over just ordinary water, Senator.

Senator Hayden (then Representative Hayden) asked Herbert Hoover, the United States representative, what the terms of the compact with respect to Mexico meant.

"No, paragraph (c) of article III does not contemplate any treaty," was Mr. Hoover's answer.

Clearly, the United States is bound, as a matter of good faith, to withhold any controversy with Mexico over the waters of the Colorado from arbitration.

Fear No. 4. That the arbitration commission will award more water to Mexico than is given by the treaty.

The dissipation of the first three fears should eliminate No. 4. However, if we ever get that far with the controversy, this fear assumes that we will either have an unjust cause or that the arbitrators will be unfair to the United States. It is believed that neither assumption is warranted by the facts. If there should be good ground for the second assumption that we shall be judged unfairly by the arbitrators provided for in the arbitration treaties, then we should lose no time in getting out of such commitments.

I have discussed the fears raised by Mr. Carson and other proponents of the treaty because I believe these fears have been the motive for the generous treatment of Mexico in the treaty. I cannot conceive of any American deliberately urging that the United States give 750,000 acre-feet of water over and above what Mexico used prior to Boulder Dam unless he thought it was necessary to do so to protect American rights.

Now, some collateral matters.

I sincerely believe that the treaty gives Mexico more water out of the Colorado River than is necessary as an expression of international comity and good will. It gives Mexico water which is needed in the United States. It is unfair and inequitable to the citizens of the United States.

Any amount of water awarded Mexico in excess of the 750,000 acre-feet she was using at the time Boulder Dam was constructed cannot be justified on the ground of international comity and equity.

The implication from the testimony of the proponents of the treaty is that it is the price we must pay Mexico to get her to agree not to ask for more water in the future; to agree to limit her acquiring of further rights by beneficial use of increased amounts of water as time goes on.

The treaty does not stop her from using as much water as she pleases out of the unused waters of the river as it passes through her territory. If we give her cheap power from Pilot Knob or from other sources, she then can greatly increase her use by pumping. She can also increase use through the Alamo Canal. Additional homes, villages, industry, schools, churches, and all that go to make up thriving communities will spring up over the delta by reason of this use of water over and above that given by the treaty. Then when our comprehensive development of the river is completed and we take all the water above the 1,500,000 acre-feet awarded Mexico by the treaty, what is to prevent her from asking again, as a matter of comity and good will, that we increase the amount of water to take care of these new communities?

Such an appeal addressed to Congress might even prevent the appropriation of funds to complete our development of the river. There is ample official precedent for more generous treatment of Mexico than her rights entitle her to. This very treaty is an example. Our State Department, up until now, has firmly denied any right in Mexico to the use of any of the waters of the Colorado. Yet we yield. Will the guaranty of the treaty be any more effective to protect us against a claim on good will than our rights of sovereignty which we now possess?

Americans are known as a generous people. It is easy to enlist their sympathies, and particularly are some of them generous when they can give at the expense of someone else. The seven Colorado River Basin States own the waters of the Colorado.

That may be challenged, but, gentlemen, that is the truth from the western point of view. The law of my own State declares that water is the same kind of property as land, and when you take the water you might just as well take the land that it would have irrigated.

The States of the West, through their representatives at the National Reclamation Conference held in Denver in 1943, declared:

That the use of water for irrigation, industrial, and domestic purposes is local in character, and plenary control thereof should rest exclusively in the States, and the claims of the Federal Government that it has a proprietary right to such waters invade the sovereignty of the States and should be resisted.

That was passed unanimously by the delegates present at that conference.

The water users of central Utah, whom I represent, believe that is a sound statement not only of policy for the control of waters but of the rights of the States to the waters within their boundaries. They ask you not to be too generous with their water for, after all, in the Colorado River compact they only gave the Federal Government the right to give Mexico some water as a matter of international comity and good will. They authorized nothing as a right. Give Mexico some water, yes; but not any more than she had put to a beneficial use prior to the building

of Boulder Dam. Any amount above that is against equity and is unfair to the people of the West. But do not make that right a first mortgage on the river, but place it on the same priority basis as rights in the United States initiated at the same time and let it take its cut with the rest of the river rights in times of drought.

The water users are also emphatically opposed to the control provisions given the International Water Commission by the treaty. Time will not permit me to discuss this matter. Their stand is expressed in the resolution by the National Reclamation Conference.

Gentlemen, that concludes the formal part of my statement.

The CHAIRMAN. Are there any questions?

Senator MURDOCK. I want to thank you and the members of the committee for the courteous treatment you have accorded the witness.

The CHAIRMAN. We will take a recess now until 10:30 tomorrow morning. We will not have a session in the afternoon.

(Whereupon, at 5:07 p. m., a recess was taken until tomorrow, Saturday, February 3, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

SATURDAY, FEBRUARY 3, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room, the Capitol, Senator Tom Connally (chairman) presiding.

Present: Senators Connally (chairman), Thomas of Utah, Tunnell, Capper, White, and Wiley.

Also present: Senators Downey, McFarland, and Millikin.

The CHAIRMAN. Let the committee come to order. Who is the next witness?

Mr. SHIRLEY (clerk). Mr. Shaw wishes to resume where he left off.

The CHAIRMAN. I thought he finished.

Mr. SHAW. No, sir.

The CHAIRMAN. You did not finish?

Mr. SHAW. I was requested to furnish further data, by Senator Millikin, among other things, and I had not finished my testimony, Senator.

Senator WILEY. That is right.

The CHAIRMAN. Let us get Senator Millikin here, if you are going to testify for his benefit. How long will it take you, Mr. Shaw?

Mr. SHAW. I am sure that, uninterrupted, I can complete my statement inside a half an hour.

The CHAIRMAN. We will try to arrange not to interrupt you. Senator Downey said something about rearranging the order of the witnesses. Senator Downey, did you make any progress on readjusting and revising your witness list?

Senator DOWNEY. Mr. Chairman, I conveyed to the group the sentiments you expressed to me. They told me that they would have a discussion, and I understood what they would do would be to report back to Senator Johnson, and he would discuss it with you and the committee; but Mr. Swing is here, I assume, and I think he is empowered to discuss it with the chairman if the chairman cares to discuss it with him.

The CHAIRMAN. The chairman has already expressed his views. Of course, he has got no way of enforcing them.

Mr. SWING. Senator, I desire to say, pursuant to the agreement that you and I discussed, in which I told you I would cooperate with you to get our hearings condensed as much as possible, we are going to arrange to call about half of the remaining witnesses only, to testify orally; others will file written statements. I shall cooperate with you as fully as I can.

The CHAIRMAN. Thank you, Mr. Swing.

Senator Millikin, the witness announced he had some matter to present that you had called for.

Senator MILLIKIN. Yes.

The CHAIRMAN. He says he will take a half an hour, if he is not interrupted, so I hope nobody will interrupt him until he finishes.

Senator MILLIKIN. Mr. Chairman, maybe we can short circuit this. The only thing that I asked for that I recall is that you cite some authorities—

Mr. SHAW. Yes.

Senator MILLIKIN. Supporting the proposition that an international arbitration commission must limit itself to questions of law; was that it?

Mr. SHAW. Yes, sir. That is the principal subject that you inquired about.

The CHAIRMAN. And do your authorities bear on that question?

Mr. SHAW. Yes, sir. I first, for the record, desire to supply a page number that you asked for, I believe, also, from the Mead report.

Senator MILLIKIN. Yes.

Mr. SHAW. Then I will proceed with exactly the Senator's subject.

Senator MILLIKIN. Of course, whatever the chairman wishes. As far as I am concerned, it would suffice if those things were simply put on record.

Mr. SHAW. May I say that the subject matter that I wish to present I think is of sufficient importance to proceed before the committee with. It would not take long, and I will appreciate the opportunity.

The CHAIRMAN. Is it just on this point that Senator Millikin has asked for?

Mr. SWING. No, Mr. Chairman.

Mr. SHAW. In part; but proceeding from there further with a statement of opinion respecting the subject matter. It will be very brief.

Senator MILLIKIN. As far as my request is concerned, I am perfectly content to have that appear of record without taking the time of the committee.

The CHAIRMAN. You just want the references?

Senator MILLIKIN. That is all.

The CHAIRMAN. Will you give those briefly?

Mr. SHAW. If the committee will permit.

The CHAIRMAN. Proceed.

Mr. SHAW. I would particularly prefer to base an argument on the very subject matter that the Senator asked about.

The CHAIRMAN. I know; but you argued that the other day, did you not?

Mr. SHAW. I merely stated it, but I wished to draw a conclusion.

The CHAIRMAN. Well, go ahead.

Mr. SWING. I just wanted him to be permitted to finish his statement.

The CHAIRMAN. Well, that is all right; but present your argument; but you argued that very thoroughly the other day. Now, if you are going to just rehash it again, go ahead; I do not know of any way but to succumb.

STATEMENT BY ARVIN B. SHAW, JR., ASSISTANT ATTORNEY GENERAL OF THE STATE OF CALIFORNIA—Resumed

Mr. SHAW. The Senator (Millikin) asked the other day for the page number of the statement which I summarized from the Mead report, House Document 359, Seventy-first Congress, second session, I believe. The statement was, appearing at the foot of page 56 of the report [reading]:

The American section proposes to recognize the claim of Mexico for the largest amount of water ever applied in irrigation or to other beneficial uses under this contract in any one year, and it is believed, as stated before, that this is a just and generous settlement of this question.

That is that subject matter.

The Senator asked for authorities on the subject of the field of arbitration; that is, as to whether the arbitration tribunal was authorized to consider natural justice, comity, or whatever, other than international law.

Senator MILLIKIN. Mr. Chairman, may I interrupt, very briefly?

The CHAIRMAN. Senator Millikin.

Senator MILLIKIN. It was my contention, as inferred from my questions, that two free, sovereign nations can arbitrate anything under the sun that they want to arbitrate. Now, that was my contention, and I assume that this bears on that.

Mr. SHAW. Yes, sir; and I will accept the Senator's statement, with the word "can" emphasized.

In 7 Moore's Digest, at page 25, under the title, A Judicial Method, Mr. John Bassett Moore, after referring to the subjects of negotiation and mediation as means of peaceful settlement of disputes, proceeds with his text [reading]:

Arbitration, on the contrary, represents a principle as yet only occasionally acted upon, namely, the application of law and of judicial methods to the determination of disputes between nations. Its object is to displace war between nations, as a means of obtaining national redress, by the judgments of international judicial tribunals, just as private war between individuals, as a means of obtaining personal redress, has, in consequence of the development of law and order in civilized states, been supplanted by the processes of municipal courts. In discussing the subject of arbitration we are theretofore to exclude from consideration except as a means to that end, mediation, good offices, or other forms of negotiation—

Citing diplomatic correspondence of Secretaries of State, from 1839 to 1896.

The next authority which I propose to present is the terms of the arbitration treaty of 1929. It seems to me that there has been a great deal of talk around that treaty but no examination of its precise terms and the field which it assigns to arbitration.

Senator MILLIKIN. Mr. Chairman, may I interrupt, very briefly?

The CHAIRMAN. Yes. Senator Millikin.

Senator MILLIKIN. That treaty was signed with what nations?

Mr. SHAW. Some 21 nations, I believe, of the American Hemisphere.

Senator MILLIKIN. So assuming a breach of the intent or letter of the arbitration agreement on the part of one state, the effect would be a breach of the whole system, all the way along the line, would it not?

Mr. SHAW. I hardly think so, sir. I think that as to each two nations it is a bilateral contract.

Senator MILLIKIN. Yes. Let me put it to you generally—forget this immediate matter before us. If the United States were to fail to arbitrate on a matter which it might feel it should not arbitrate but which others might think it should arbitrate, would we not put ourselves in the position of not only breaching the spirit of arbitration between the two nations in immediate conflict, but would we not also be casting a repudiation of the spirit of the thing over the whole system of it?

Mr. SHAW. I cannot speak to you as to the whole spirit of the matter, Senator, but I can say to you that if your thesis is correct, Mexico has breached this treaty, as regards all the American nations.

Senator MILLIKIN. I am not asking on the specific matter, at all. I am suggesting, if I may, that in considering this arbitration system we should consider it as a whole from an international standpoint and keep that in mind when we adopt an attitude as to whether we will or will not arbitrate in any particular matter.

Mr. SHAW. Of course; and I grant that the spirit of arbitration is one of the things which the United States has cultivated for a generation and is a wholly desirable thing.

Senator MILLIKIN. I think we are in agreement, then, on the basic background.

Mr. SHAW. Yes, sir.

After the naming of the governments which joined in the Sixth International Conference at Habana in 1929, the text of the preamble proceeds:

In accordance with the solemn declarations made at said Conference to the effect that the American Republics condemn war as an instrument of national policy and adopt obligatory arbitration as the means for the settlement of their international differences of a juridical character;

Being convinced that the Republics of the new world, governed by the principles, institutions and practices of democracy, and bound furthermore by mutual interests, which are increasing each day, have not only the necessity but also the duty of avoiding the disturbance of continental harmony whenever differences which are susceptible of judicial decision arise among them—

I skip now to the essential provisions of article 1 of the treaty, which defines what shall be arbitrated:

The High Contracting Parties bind themselves to submit to arbitration all differences of an international character which have arisen or may arise between them by virtue of a claim of right made by one against the other under treaty or otherwise, which it has not been possible to adjust by diplomacy and which are juridical in their nature by reason of being susceptible of decision by the application of the principles of law.

There shall be considered as included among questions of juridical character:

- (a) The interpretation of a treaty;
- (b) Any question of international law;
- (c) The existence of any fact which if established would constitute a breach of an international obligation;
- (d) The nature and extent of the reparation to be made for the breach of an international obligation.

The provisions of this treaty shall not preclude any of the Parties, before resorting to arbitration, from having recourse to procedures of investigation and conciliation established in conventions then in force between them.

You will note, if you please, Senator, that the first and most prominent element in this paragraph is this—that the questions must be juridical in their nature, must be susceptible of decision by the appli-

cation of the principles of law; that the first item specified is the interpretation of a treaty; that the second is any question of international law; that there is in the schedule no element of comity; there is in the paragraph no intimation that an arbitration tribunal may negotiate a treaty and enforce it upon the parties, any more than a domestic court may make a contract for the parties.

Senator WILEY. Did the State Department interpret any of those provisions?

Mr. SHAW. There has been no decision that I know of by the Department.

Senator WILEY. No; no—I mean in this particular matter did we have any testimony in relation to that particular treaty?

Mr. SHAW. Not in its terms; not in reference to its terms, Senator.

Senator WILEY. I was not here.

Mr. SHAW. But only a vague reference to the arbitration treaty, and that we might be called upon to arbitrate something.

I proceed to call to your attention that there is attached to this treaty not only the reservation of the Senate of the United States, which has been put before you—

The CHAIRMAN. Well, I want to ask you, right there, now.

Mr. SHAW. Yes, sir.

The CHAIRMAN. You say there is a reservation. In other words, we made an arbitration treaty. You contend that we reserved the right to not arbitrate anything under it?

Mr. SHAW. No, sir.

The CHAIRMAN. Does not that so-called reservation that you speak of, which requires that the submission be approved by the President of the United States and ratified by the Senate, apply simply to the form of the question which is submitted and not to the substance of arbitration at all?

Mr. SHAW. I think not, Senator.

The CHAIRMAN. Well, what do you want with a treaty of arbitration, when you say you will determine, and you say we do not have to arbitrate unless we want to? What is the use of having a treaty?

Mr. SHAW. May I explain my view on that, please? The view is maintained and has been maintained by the Senate, as I think Senators are aware, since at least 1900, that the Senate of the United States must retain the control of the determination of whether a question is arbitrable under the treaty, so that the function of the Senate is not merely to determine the form of the question but to determine whether or not the question itself is within the terms of the treaty and must be arbitrated. Hence I say that if the Senate is confronted with a problem relating to a possible arbitration requested by some other nation, it is entitled to look to the terms of article 1 of this treaty.

The CHAIRMAN. That is right.

Mr. SHAW. And say, "Is that within the terms?"

The CHAIRMAN. I agree with that. I do not have any quarrel with that view.

Mr. SHAW. Thank you.

The CHAIRMAN. But other witnesses here have contended that under the arbitration treaty we did not have to arbitrate anything. Of course, we can refuse, but when we do refuse, we breach the spirit of the treaty.

Senator MILLIKIN. With twenty-some nations.

The CHAIRMAN. Twenty-one nations.

Mr. SHAW. To my notion, gentlemen, the question of the Senate's power to refuse to arbitrate a particular thing in a particular form is the secondary consideration. The primary consideration is what the treaty itself requires to be arbitrated and what it does not require to be arbitrated. We have not heretofore, as you will recall, had the text of this treaty before you, and you have not had to consider whether or not the State Department's representations that this thing is arbitrable are borne out by the terms of the treaty. I submit to you that they are not.

The CHAIRMAN. The treaty has been here ever since the hearing opened, I do not know where.

Mr. SHAW. Yes; but it has not been put in the record, before this moment.

The CHAIRMAN. All right.

Senator MILLIKIN. Mr. Chairman, may I ask a question, please?

The CHAIRMAN. Yes.

Senator MILLIKIN. Will you agree with me, Mr. Shaw, that when two sovereign nations agree to submit a matter for arbitration, that they thereby make it juridical?

Mr. SHAW. Oh, no; no, Senator.

Senator MILLIKIN. You say that what is a juridical dispute rests entirely on precedent?

Mr. SHAW. No. Let me put it this way, if you please, Senator. As the text writers on international law indicate, it is possible for nations to agree to arbitrate a thing, not upon the basis of international law at all.

Senator MILLIKIN. Exactly.

Mr. SHAW. But upon the basis of municipal law.

Senator MILLIKIN. Exactly.

Mr. SHAW. Of one country or another.

Senator MILLIKIN. Exactly.

Mr. SHAW. Or on the basis of what is called natural justice.

Senator MILLIKIN. Any basis.

Mr. SHAW. But we have not so agreed.

Senator MILLIKIN. Well, I say——

Mr. SHAW. We have agreed to submit things which are juridical, susceptible of decision according to the principles of law. That is the limit of the arbitration treaty.

Senator MILLIKIN. Once you submit the matter to a board of arbitration, do you not thereby make the question involved juridical?

Mr. SHAW. I hardly think so, because I think we can submit to a board of arbitration matters which are not juridical at all. We could; but we have not.

Senator MILLIKIN. Do they not become juridical in that case by the submission itself?

Mr. SHAW. I do not think so, sir.

Senator MILLIKIN. We have a sharp difference of opinion. Now, let me ask you something else.

Mr. SHAW. Yes. Let me say that my assurance to the chairman about the time I would consume is not susceptible of being carried out in view of the course of this discussion.

Senator MILLIKIN. You are familiar with the *Kansas-Colorado case*?

Mr. SHAW. Very well. I want to mention that in just a moment.

Senator MILLIKIN. There, the equitable distribution of water was considered a juridical matter, for otherwise the Supreme Court would not have had jurisdiction.

Mr. SHAW. I agree with you.

The CHAIRMAN. All right.

Senator WILEY. Mr. Chairman.

The CHAIRMAN. Go ahead, Senator.

Senator WILEY. I understand the position that you take is that (1) you would agree with Senator Millikin that where two sovereign powers agree, irrespective of previous treaties, they could submit any question to arbitration—you agree to that?

Mr. SHAW. And upon the basis of any law which they might choose to name—the Ten Commandments, if you please.

Senator WILEY. The point you are making is that in answer to the position of the State Department, that they said that there was in the present law a requirement for arbitration on this subject?

Mr. SHAW. Exactly.

Senator WILEY. You are making the point that neither the Senate nor this Government at any time in the past has made necessary the submission of the question involved in the Colorado River proposition to arbitration?

Mr. SHAW. Precisely, Senator.

Senator WILEY. That is what you are arguing?

Mr. SHAW. We are not bound.

The CHAIRMAN. Well, now, Mr. Shaw, go ahead, and I hope Senators will not interrupt him, unless they are members of the committee, until after he finishes his statement—if he finishes.

Mr. SHAW. Not only has the United States Senate established a reservation with which you are now familiar, but the Mexican Government at the very time the treaty was written in 1929 established a separate reservation and a different one. The Mexican Government would not even sign, in 1929, the original draft of this treaty without this reservation. I give you the text:

Mexico makes the reservation that differences which fall under the jurisdiction of the courts shall not form a subject of the procedure provided for by the convention, except in case of denial of justice and until after the judgment itself by the competent national authority has been placed in the classification of res adjudicata.

I do not propose at this moment to analyze the terms of that reservation, but I call to your attention article 8 of the treaty, which shows that any reservation made by any 1 of the 21 parties shall be available to all of the other 20 parties, so that the United States is entitled to the benefit of that reservation as well as the Mexican Government. I do not propose to take the time to analyze what falls within the jurisdiction of the courts, although I believe firmly that there are elements in the present situation which do fall within the jurisdiction of the courts.

However, I call to your attention—

The CHAIRMAN. Wait a minute. Where is there any court in which the United States and Mexico could litigate their differences?

Mr. SHAW. Mexico is entitled, Mr. Chairman, to come into the courts of the United States and prosecute her claims as other governments have done in the past.

The CHAIRMAN. Oh, no.

Mr. SHAW. She has got a right to submit to the Supreme Court of the United States her claims, and those are subject to cognizance by the United States, just as many times the Soviet Government and the Government of France and other governments have done.

The CHAIRMAN. Then we could go down to Mexico, could we, and litigate this matter in their supreme court?

Mr. SHAW. I would not choose to, Senator.

The CHAIRMAN. I know, I did not ask you if you would choose to, but could you?

Mr. SHAW. I am pointing out the possibilities.

The CHAIRMAN. I am asking you if you if you could, if Mexico could do that in the United States.

Mr. SHAW. I do not think we have any grievance in Mexico which we might have to litigate, but they have one against us which they might want to litigate.

The CHAIRMAN. We might want to remove a cloud from the title to land, or bring an action to quiet title.

Mr. SHAW. As long as you were in possession you would not need to quiet the title.

The CHAIRMAN. I just wanted to see whether your mind is of the one-track kind, or whether your proposition is a one-track proposition.

Mr. SHAW. I shall keep on one track at a time, Senator.

The CHAIRMAN. You say they could come up here and litigate in the United States courts?

Mr. SHAW. Yes.

The CHAIRMAN. Could we go over and litigate in the Mexican courts?

Mr. SHAW. If we had anything to litigate; but I do not see that we have.

The CHAIRMAN. I want to know if we could go over there and litigate it if we had?

Mr. SHAW. I think we could.

The CHAIRMAN. I suppose the Mexicans are in favor of coming over here about as strongly as you are of going over there.

Mr. SHAW. That is their choice, however, and their right, also.

The CHAIRMAN. All right; I withdraw the objection.

Mr. SHAW. The second point is that the Mexican Government has in fact taken advantage of this reservation very recently, to defeat arbitration between itself and the United States. I call to your attention that a few years ago Secretary Hull requested of the Mexican Government the arbitration of the matter of expropriation of oil lands. That amounted to a definite statement on his part, evidently, that he regarded that subject matter as being arbitrable under this treaty; under international law there being, at all times in history, a right upon the part of a government to protect the property of its nationals in the other country, and this expropriation being regarded as in effect the taking of property by the Mexican Government from the oil companies.

The Mexican Government replied that it did not think the matter was arbitrable, that it was, in spite of the principles of international law that Secretary Hull rested on, a matter which could come under the domestic jurisdiction of their courts and that they preferred to have it so; so there was no arbitration.

Mexico having, in the opinion of Secretary Hull, repudiated the whole treaty, we have, of course, our right to repudiate it, but we do not ask that that right be enforced. We simply bring it to your attention that we are not in such bad position, morally, as might be suspected.

I do point out further that since the first specific ground of arbitration stated in article 1 of the treaty is the interpretation of treaties, immediately upon the ratification of the proposed treaty there come into existence questions which can be arbitrated and must be arbitrated. As soon as we have a treaty between ourselves and Mexico on this subject of the water of the Colorado River, Mexico is entitled to go before an arbitration tribunal and say, "There are in this treaty elements which are uncertain and vague and which require interpretation," and we have specifically agreed to do that; and I do not think, in honor and morals, we could ever refuse a thing which comes so directly within the terms of the arbitration treaty. So I suggest to you that this very question of quality of water which has been mooted in this hearing furnishes a perfect illustration of what arbitration is intended to cover. I suggest to you further that the question of the definition of "extraordinary drought," which is in this treaty, is another apt illustration of what we are bound morally and by express terms to arbitrate.

I suggest to you that there are not a dozen but dozens of terms in this treaty which are so vague that they require determination as to what they mean. The subject matter for example referring to the words "extraordinary drought" is not a subject matter which is under the determination of the American commissioner alone. It is a matter which is to be determined by the Commission. Possibly if the Commission itself determined the question, if there were agreement between the two Commissioners, there might be no resort to anything further. That might be conclusive, and I suspect that it is, under the treaty; but if the two, their interests being diverse, should dissent from each other's views, then we have two decisions by the Commission and a thing which is a difference between the two Governments, and which article 24 (d) of the treaty expressly provides shall be subject to arbitration, in addition to the terms of the treaty of 1929. So we are opening a Pandora's box under the arbitration treaty if we adopt the proposed treaty. We are protected by the terms of the arbitration treaty if we do not adopt it.

May I revert now, if you please, to just a little subject matter relating to the general subject which I started to develop at my previous testimony, and bringing down to the conclusion the material relating to the views of these States on the thesis which I have proposed to you. That is, that international law does not put any compulsion on the United States to allow the water of the river to proceed to Mexico.

The next item is a report of a legal subcommittee of the Committee of Seven, made at El Paso, Tex., May 28, 1942, addressed to the Committee of Fourteen, and reading:

The subcommittee designated by your Committee of Seven to examine into certain legal aspects and principles involved in conversations with Mexico regarding the Colorado River submits its report.

1. Question: "In the absence of treaty, has Mexico a right under international law to the continued delivery of any water in the Colorado River, or, conversely, is the United States under any duty under international law to continue such delivery to Mexico?"

We answer that in the absence of treaty Mexico has no such legal right and the United States is under no such legal obligation. No treaty now exists.

2. Question: "In the exercise of the treaty-making power, what are the applicable principles of international law?"

We answer: (a) Principles of equity and comity are determinative of allocation of the water of an international river (b) so far as we can ascertain there is no body of international law which controls the problem, in the sense of judicial decisions handed down by a tribunal whose decisions are binding upon nations (c) in the exercise of the treaty-making power, precedents indicate that considerations of the preservation of existing uses of an international stream are given due weight in the light of pertinent physical facts and in some cases opportunity for future development are recognized. These uses are normally fixed as of the time the treaty is made. However, physical conditions and improvements on the river should be considered in fixing the time as to which the recognition of beneficial uses should be made.

An illustration of the treaty-making convention is the Rio Grande Convention between the United States and Mexico, dated May 21, 1906, relating to the equitable division of the waters of the Rio Grande above Fort Quitman. After debate between the two Governments as to the existence of any legal right on the part of Mexico, the United States determined to accord to Mexico, on grounds of equity and comity, 60,000 acre-feet of water per annum. The treaty was made in contemplation of the construction of Elephant Butte Dam in New Mexico, and was designed to afford to Mexico water to irrigate all the lands in the Juarez Valley which had been beneficially using Rio Grande water for hundreds of years. The Mexican Government accepted these terms and waived all rights to the waters of the upper Rio Grande beyond the agreed amount. Thus the existing Mexican uses originally served from natural flow of the stream were protected and the United States is entitled to use all other water conserved by the dam.

3. It is clear to this committee that no allocation of water should be approved by the States, except with full knowledge of all the proposed conditions of delivery.

Respectfully submitted.

CLIFFORD H. STONE,
GAIL L. IRELAND,
Attorney General of Colorado.
G. W. SHUTE,
Of Arizona.
FRED E. WILSON,
Of New Mexico.
ARVIN B. SHAW, Jr.,
Chairman.

That report was placed before the Committee of Fourteen, and resulted in a resolution which it is not necessary to read but which I ask be made part of the record. That resolution, if I may summarize it, if the committee please, provided in principle for a sliding-scale allotment to Mexico, on allotment which should be greater when the river was high and lower when the river was low, not a guaranty fixed as a first right on the river. That report was made not only upon the basis of this legal report.

The CHAIRMAN. You may put it in the record, if you like.

Mr. SHAW. Thank you, sir.

Senator WILEY. What is the date of it?

Mr. SHAW. June 20, 1942.

(The resolution referred to is as follows:)

RESOLUTION OF COMMITTEE OF FOURTEEN, EL PASO, TEX.

The Committee of Fourteen, representing the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, in meeting assembled in the city of El Paso, Tex., on June 17, 18, 19, and 20, 1942, after having considered the reports of the subcommittees, legal and engineering, and after having considered the letter from Hon. Cordell Hull, Secretary of State, presented by Hon. Herbert Bursley on June 17, 1942; and

Whereas said letter suggested that this committee, representing the seven Colorado River Basin States, submit to the State Department a plan for the allocation of waters of the Colorado River between the United States and Mexico:

Whereas this committee has given full and careful consideration of the matters presented to it and has concluded that it approves the continuance of conversations with the Republic of Mexico upon the considerations hereinafter recited;

Resolved, It is the sense of this committee, representing all seven States of the United States in the Colorado River Basin, acting unanimously,

A. We submit herewith the following plan which we believe to be equitable, fair, and just as a basis for the apportionment of the waters of the Colorado River between the two nations:

1. Mexico shall not demand, nor shall the United States be required, to make available any water which Mexico cannot reasonably apply to beneficial use for irrigation and domestic purposes.

2. The United States will make available in the river at the upper boundary (California-Mexico) 800,000 acre-feet of water of the Colorado River system each calendar year that the releases from Lake Mead, as estimated by the Secretary of the Interior, total 10,000,000 acre-feet.

3. For annual estimated releases from Lake Mead above or below 10,000,000 acre-feet, the United States will make available at the upper boundary a total which will vary from 800,000 acre-feet in an amount which is 15 percent of the difference between the estimated releases and 10,000,000 acre-feet, such amount to be deducted from the 800,000 acre-feet when the estimated releases are less than 10,000,000 acre-feet, and added when the estimated releases are greater than 10,000,000 acre-feet.

4. Any amount of water delivered to Mexico at any point or points other than in the river at the upper boundary shall be equated to and charged against the amount herein specified to be made available at the upper boundary, considering any losses that may be occasioned by delivery at such other points.

5. The water to be made available to Mexico shall be in such amounts and at such times as may be requested by Mexico, provided that flows ordered by Mexico in excess of 4,000 second-feet shall be subject to the decision of the Secretary of the Interior, or whoever may be charged with the control of power production at Boulder Dam and other dams below that point on the Colorado River, as to the availability of such excess flow without adversely affecting the use of water for power production in accordance with contracts for such power made under the Boulder Canyon Project Adjustment Act.

6. Mexico may use any water available in the river between the upper and lower boundaries, but with no obligation on the part of the United States to make available any of such water.

7. Mexico must waive all rights and claims to the use of water of the Colorado River system not provided for herein.

We recommend:

1. That the United States cooperate with Mexico in the making of studies to determine the amount and rate of flow of water from surface and subsurface sources which may be available below the upper boundary for use in Mexico.

2. That the United States cooperate with Mexico in studies and in construction of improvements to the river channel below the upper boundary.

3. That the United States provide flood control on the lower Gila River for the protection of lands in the United States and Mexico.

We ask:

1. That in negotiating the treaty the Department of State recognize that within the United States and Colorado River compact and the Boulder Canyon Project Act as amended by the Boulder Canyon Adjustment Act are the law governing the Colorado River and that it recognize the allocations and contracts for water and power made thereunder.

2. That the Department use in negotiating the treaty such services and advice of qualified experts upon the subject as the interested States of the basin may offer.

3. That the interested States be advised of the terms of any proposed treaty and be permitted to comment thereon before any firm commitment has been made.

We express our gratitude for the opportunities for information and consultation which have been afforded us by the Department of State and for the separate handling of the negotiations upon the Colorado River and the Rio Grande and will most respectfully appreciate the continuance of these policies.

Mr. SHAW. That report was made not only upon the basis of a legal subcommittee's report but on the basis of an engineering subcommittee's report and after debate for a number of days.

Following that action by the Committee of Fourteen there was prepared, and the chairman of this Committee of Fourteen, Clifford H. Stone, transmitted to the State Department under date of August 5, 1942, the memorandum which has been submitted to you by another witness, dated I believe July 17, 1942. I submit for the record a copy of the letter of transmission from Judge Stone to Mr. Herbert S. Bursley, of the State Department, and ask that it be made a part of the record.

(The letter of transmission referred to is as follows:)

AUGUST 5, 1942.

Personal.

Mr. HERBERT S. BURSLEY,
Assistant Chief, Division of American Republics,
Department of State, Washington, D. C.

MY DEAR MR. BURSLEY: There is transmitted under separate cover and by air mail the following:

1. Proceedings of the Committee of Fourteen of the Seven States of the Colorado River Basin, June 17, 18, 19, 1932. These proceedings cover the meeting of the committee at El Paso on the dates mentioned.

2. Memoranda on behalf of the Committee of Fourteen of the Seven States of the Colorado River Basin, in explanation and support of the resolution adopted by the committee on June 20, 1942. This relates to the apportionment of the waters of the Colorado River to Mexico. It is dated July 27, 1942.

3. Copy of letter dated July 29, 1942, addressed to me as chairman of the Committee of Fourteen and signed by Evan T. Hewes, chairman of the Colorado River Commission of California. This letter relates to recent conditions at Rockwood Gate, the diversion points of the Alamo Canal and conditions at the various pumping plants taking water from the river, side channels, and sloughs in the lower part of the Colorado River delta. This letter is self-explanatory.

You are fully familiar with the arrangements under which the supporting statement mentioned in paragraph 1 is submitted. We are sending three additional copies of items 1 and 2 by air express tomorrow. Also we are sending a copy of items 1, 2, and 3 to Mr. Lawson at El Paso by air mail.

Respectfully yours,

CLIFFORD H. STONE,
Chairman, Committee of Fourteen, Colorado River Basin.

Mr. SHAW. That concludes my statement as to the matter of international law, and I call to your attention that the principle of Judson Harmon's opinion on this subject, in 1895, has not only been consistently applied by the State Department and the other responsible officers of the United States up to the time of the consideration of the present treaty, but it has been observed by the Congress in principle in the first section of the Project Act, and by the States in principle to this degree and with this effect, that the assertion in the Project Act that the water shall be used exclusively within the United States and the insistent demands of the States that the stored water be used in the United States and not in Mexico is a reflection of the conception of sovereignty and of dominion over this water. That view could not exist without the basic legal proposition.

MEXICAN VIEWS OF INTERNATIONAL LAW

I refer now to the Mexican views relative to international law, and it may surprise some to learn that the Mexican view, as expressed in the 1929 treaty proceedings as to the lower Rio Grande, was identical

with the view of Judson Harmon. I present this language from the report of the American Commission, page 14 of House Document No. 359, heretofore presented to you, being the report of the American section, that states:

As shown in the minutes, the American section presented the view that the jurisdiction of a nation within its own territory and over its own resources is necessarily exclusive, absolute, and susceptible only of self-imposed limitations, but it proposes as an act of comity and friendship that the doctrine of prior appropriation known in the law of both countries be extended for the protection of existing uses of water in both countries from the Rio Grande. The Mexican section stated that it could not agree to this or to any restriction on the complete sovereignty of Mexico and its right to use all of the water of its tributaries to the Rio Grande, and was therefore unable to recognize the principle of protecting existing uses of this water in the United States.

So you see that as regards the Rio Grande the Mexicans said, "No; we own the water which comes out of our tributaries into the boundary section of the stream."

I pass to a very brief consideration of the treaties which were referred to by counsel for the Boundary Commission.

TREATY OF 1906

And, first, the treaty of 1906 on the upper Rio Grande. That treaty was a treaty which proposed to restore to Mexico her right to beneficial use of the natural-flow waters of the Rio Grande above Fort Quitman and not to give the Mexicans the benefit of American storage. The initial situation was that Mexico had enjoyed for 300 years or more the use of this water in the Juarez Valley. The United States, by permitting new developments in Colorado and New Mexico, took away from and subtracted from the existing uses so that Juarez Valley was approximately half depopulated; there was not water enough to permit the people to live there. The result was the long argument, for 10 years or so, as to these claims for damages, and the final construction of the Elephant Butte Dam and the negotiation of the treaty by which the United States simply restored to the Juarez Valley that which had been taken away from them; just as if we had entirely exhausted the Colorado River and had forced the settlers and farmers in the Mexicali Valley in Mexico to abandon their homesteads, and then we had come to a point of realizing that we had done a moral wrong and had decided to give them back the water they had formerly enjoyed. So that the treaty of 1906 is not a treaty by which, in true substance and meaning, the benefits of the United States storage as such were extended to Mexico. It was merely the act of reparation for a moral wrong which had been done those people.

ELEVEN OTHER TREATIES PRESENTED BY BOUNDARY COMMISSION

I proceed now to the 11 other treaties which were submitted to you, and are summarized in the black book which is before the Senators. The memorandum regarding the treaties which is in that book was submitted to the Committee of Fourteen and its legal subcommittee in May 1942 by counsel for the Boundary Commission, and there was very careful and close consideration and analysis made as to the treaties mentioned. It is not a new matter. Those treaties also, if you please, related primarily and I think almost exclusively to the

rights of the lower nation in natural flow of the stream, and there is not one, I think, which counsel can point to that involved the question of the upper nation constructing works for the benefit of the power nation, so that the water caught by conservation in those works should be taken advantage of or gained by the power nation.

There are among those 11 treaties 3 which are cases of boundary streams like the lower Rio Grande. That case is a different one from the case of what is called a successive river; that is, one passing successively from one nation to another, because a successive river is by nature placed completely in the command and control of the upper nation, so far as it lies within its boundaries. When it reaches the lower nation the water is then completely within the control of the lower nation.

As regards a true boundary river, on one side of which is one nation and on the other side the other, the physical situation is entirely different. Both nations have access to the stream and can physically take its waters by some kind of works, whether it is pumping or wing dams or what not, so that the principle affecting a true boundary stream is necessarily governed by the physical conditions and is different from the principle applying to a successive stream.

There are therefore only 8 of the 11 treaties presented by counsel which have to do with the kind of stream that we are here considering in the Colorado, and I suggest to you gentlemen that a series of 8 treaties, most of which have been made within this century, is not a basis for the determination of any general principle of international law; first, because the instances are too few; a doctor looking for a cure for cancer will not determine his course upon 8 instances; he seeks thousands or hundreds at least. Second, because the very principle of treaty negotiation is a different thing from the principle, or basis, of determination of rules of international law, until there have been so many, many instances of treaties along a given line that you can say that a common thread runs through the practice of the entire civilized world, and we have then something which can be recognized as a rule of international law.

Specifically, treaties are contracts. They are contracts made upon considerations proceeding from one party to another and which the parties finally decide are worth exchanging. They are not declarations, typically, of international law; they are agreements by nations to vary from the requirements of international law, in most instances. If there were international law admitted by both parties, binding both parties, there is no necessity for a treaty. If there is not international law at all on the subject, or if international law is not agreed to by the parties and they desire to substitute some other rule, then they make a treaty; and the treaty is a bargain and not a declaration of law.

Declarations of law, such as are regarded as international law, come primarily from the determinations and decisions of diplomatic officers, secretaries of state, ministers, and so on, their actual conduct, in other words, which determines how they regard their country is to be bound. They come in addition from the works of text writers and students of the law. They come in the third place, and most forcibly, from the decisions of international tribunals upon the subject, and those are typical decisions comparable to those of the Supreme Court of the United States and other courts, in that they proceed to analyze and crystalize principles of law which they find already existing.

I suggest to you that in the absence of a single decision of an international court or an arbitration tribunal to the effect that there is any law—and counsel for the State Department has not produced anything of the sort—the most convincing proof of what is the rule of law is the conduct of our responsible legal officers in the United States, which settles for our purposes what the international law, as practiced by the United States, is.

I submit to you that the fear of arbitration is pure fear and has nothing substantial behind it; and, that being the primary consideration presented in any tangible form by the proponents of the treaty as a ground for giving away more than we are obliged by international law to give away, the treaty is therefore a bad treaty.

That concludes my statement, Mr. Chairman.

The CHAIRMAN. Are there any questions?

Senator TUNNELL. How much are we compelled to give now by international law?

Mr. SHAW. By international law, nothing.

Senator TUNNELL. You spoke a few minutes ago of the moral wrong that had been done to the Juarez Valley. Is that persuasive at all in any allowance that might be made hereafter?

Mr. SHAW. Certainly, sir, as a matter of friendship and comity, we should not perpetrate moral wrongs, and we have for that reason come before you agreeing that whatever Mexico enjoyed before Boulder Dam was a proper thing for the United States to consider in making a treaty with Mexico; in other words, the 750,000 acre-feet should not be taken away from her. Her civilization should not be destroyed. We recognize that principle.

Senator TUNNELL. I understood you to say a few minutes ago that usually the time when it is determined as to the amount that shall be allowed is at the time of the treaty.

Mr. SHAW. Where you are dealing with natural flow divided between two nations that has been the customary thing. But, as stated in the report of this legal subcommittee, the time of the construction of works is also a circumstance to be taken into consideration; and in this instance of the Colorado we think, Senator, that the time of the construction of the Boulder Dam was the breaking point that should be considered, because otherwise the Mexicans would be making a claim of right to use our conservation works, which they cannot in equity claim. They have not contributed to it; they have not done anything to help us.

Senator TUNNELL. Is it your theory that if dams should be erected which would take all of the water, there would not be even a moral right on the part of Mexico to any of that water?

Mr. SHAW. No, sir. I just completed the statement to you that we consider that there is a moral right to give Mexico the use which existed there before Boulder Dam.

Senator TUNNELL. But you arbitrarily divide it between building the dam, pre-Boulder Dam, and subsequent to Boulder Dam.

Mr. SHAW. Not exactly, Senator, because the question of moral right depends on what they had in existence before we started to develop that river.

Senator TUNNELL. What was there morally to prevent the United States from taking it all and therefore claiming an absolute right to keep all the water from Mexico?

Mr. SHAW. I think it is not a moral act to deprive a neighbor nation of a civilization which has been created with our knowledge in her territory.

Senator TUNNELL. As I understand the testimony, Mexico is using 1,800,000 acre-feet at this time?

Mr. SHAW. Yes.

Senator TUNNELL. Is it morally right to take from the owners of land in Mexico a portion of that 1,800,000 acre-feet that it is now using?

Mr. SHAW. If I tried to describe what I think the practice of the Mexican Government has been up to this moment it would not remain in the record, I think, Senator.

The Mexican Government has encouraged a very rapid development in the last few years. I think you will find the uses in Mexico prior to the last 2 years—in other words, the 3 preceding years or the 5 or 6 years preceding that—would not anywhere near tend to approach 1,800,000 acre-feet. They have quickly rushed in to seize the water we have conserved. It is not a question of disturbing a stabilized, permanent civilization, but a question of stopping something, in which we have in a way been taken advantage of, and which the State Department, for some reason, has refused to see was coming. They have declined the requests of the Committee of Fourteen and of the States to notify Mexico that they were taking that water at their risk and not with any claim of building up a right, as the States had repeatedly asked them to do.

Senator TUNNELL. Notwithstanding that, do you not think that we must in consideration of right or justice, 10 years from now or 20 years from now take into consideration the water that had been used by private individuals, even though they were in Mexico?

Mr. SHAW. No. I believe that if the diplomatic representatives of this country should assert firmly that the United States could not consider Mexico in that connection, and Mexico should take advantage of it temporarily, we would be in a perfectly safe position morally and every other way.

Senator TUNNELL. Just the same as we can take advantage by taking it all if we wanted to?

Mr. SHAW. I do not suggest that.

Senator TUNNELL. No; you do not suggest that; but I am speaking of equity or moral right. Mexico can use as much as flows down there now, I understand.

Mr. SHAW. Yes; and I think she should be permitted actually to use it, to get whatever value there is in it. We should permit Mexico to get every dollar she can get out of it for 15 or 25 years in the future.

Senator TUNNELL. The United States or its subdivisions can take all of the water now?

Mr. SHAW. Not now; ultimately, Senator.

Senator TUNNELL. They can take it now?

Mr. SHAW. I think so.

Senator TUNNELL. But you are presenting entirely a legalistic view and you are leaving out equity and the moral right?

Mr. SHAW. No; I am presenting to you the moral view. The moral view is, Should Mexico be entitled to gain, without expense, without effort, the result of our foresighted and prudent development of the Colorado River?

Senator TUNNELL. We did not cause the water to flow down the river. We have only grabbed a part of it.

Mr. SHAW. Mexico cannot take any of those waters and impound them on her own soil, because she has no storage sites in that flat delta to do it. We are not depriving them of the floodwaters to their injury at all.

Senator TUNNELL. The same argument would apply to a man walking along the road and another man walks up to him and takes his money away from him because he has no gun.

Mr. SHAW. I deny that it is his money.

Senator TUNNELL. Suppose he earned it?

Mr. SHAW. That is a different case.

Senator WHITE. You must be talking about two different men.

Mr. SHAW. I think so.

Senator TUNNELL. I do not understand your theory that there is no moral right in the people of Mexico who take this water now that we are not using, and use it for 5, 10, or 20 years, and yet there is a moral right, you say, with respect to water coming out of the same stream which has reached 750,000 acre-feet. You say there is a moral right there?

Mr. SHAW. Yes.

Senator TUNNELL. But there is no moral right after our people take part of it?

Mr. SHAW. I think it is most essential that I make that clear.

Senator TUNNELL. I wish you would, because it is not clear to me.

Mr. SHAW. Let us look at it this way. Here is a river in a state of nature. Mexico is able to take a part of that river. We are able to take a part of it in its natural condition; and over a generation we see Mexico develop from a civilization in their territory, a limited one, one which we will say will use 750,000 acre-feet of water. We stand by and see that done, and people make their homes there and build up their ties to the soil. That is one situation. That is the situation which we think creates some kind of moral right.

On the other hand, we come to the Colorado River, after a generation of engineering, exploration, and consultation in Congress and elsewhere as to what should be done to develop that river, and the Government of the United States, for the benefit and upbuilding of its territory, decides to build Boulder Dam and other works. It proceeds entirely unaided to do so, but before it does so it notifies Mexico, as Senator Key Pittman said on the floor of this Senate, that those expenditures are made by us for our benefit and not for hers, and that she need not expect to hold any permanent use of the water conserved by that dam. The dam is built and proceeds to salvage water. That water is, for all practical purposes, for all the utility that anyone could have gotten from it, newly created water, which might as well never have existed before. In fact, it is even a more emphatic situation than that, because before the building of the dam the water was a menace, yearly, of destruction to Mexico as well as to the American territory on the lower river. We have therefore built this dam, incidentally, to save Mexico from the destructive waters of the river in its flood season and have, besides doing that, thereby freed a large part of their lands so that they can be farmed and developed, lands which were previously subject to annual inundation. Those benefits auto-

matically go to Mexico, and we do not have any thought of depriving her of them. They were contemplated and known in advance of the building of the dam; but also contemplated was the declaration of the Congress that those waters were for American use, that Mexico should not be entitled to them, and if she knowingly, under that notice, proceeded to develop, it would be on a temporary basis. In other words, for such length of time as we should not have proceeded to complete development, Mexico might use and re-use the diminishing flow which will come down the river during the next generation or so.

Water should always be put to use, whether anybody has a right to it or not. Crops should be grown with it and the world should be fed by it. We believe that Mexico should gain every advantage and make every dollar she can out of our water which is abandoned by us at the foot of Boulder Dam. That is different, however, from saying that Mexico, under the notice, was innocently proceeding to build up a situation which she should be entitled to insist upon in the future as a right. That is not the case; and Mexico has no equity in the situation.

Senator TUNNELL. Suppose the notice to Mexico had been that we were going to take all of the water?

Mr. SHAW. I would say that would have been an immoral and unfriendly act toward a neighboring nation.

Senator TUNNELL. Will it not come, after a while, to just a determination of which is the stronger nation?

Mr. SHAW. I hope not. I hope that the principle of equity can be applied through all the dealings between the two Nations. I think that is the only foundation upon which we can proceed to act. But I do not think that undue generosity, or the overexpenditure of our resources for her benefit, is going to gain respect or maintain friendship.

Senator TUNNELL. Do you think that the very fact that intelligent people met and considered these equities and legal rights, and have agreed that 1,500,000 acre-feet is a fair proportion, would have any persuasive effect in the future on the moral right?

Mr. SHAW. It is very hard to speculate how the opinions of these gentlemen, who have reversed their former opinions, may be considered in the future. I would think, however, that unless there is adequate foundation for the change of front on the part of these gentlemen, their change of front has no particularly convincing effect. There must be something to explain it; and my thought on the subject, if you please, is that the only explanation which has been advanced has been put forward by them in the memorandum which they have published and in the testimony which Mr. Carson has given—this matter of the fear of arbitration which has been advanced, without showing the text of the arbitration treaty or showing that the matter is actually arbitrable.

Senator TUNNELL. That is only a question of how to enforce an equitable right which is claimed; is it not?

Mr. SHAW. Yes.

Senator TUNNELL. Now, regardless of whether these men have at some time expressed some opinion different from the treaty, is it not, as it now stands, admitted to be the act of two governments seeing that they have a fair proportion?

Mr. SHAW. No; I do not think it can be said that it is the act of the two governments until the Senate acts.

Senator TUNNELL. Who made the agreement?

Mr. SHAW. The State Department—not the Senate.

Senator TUNNELL. That is true; but it is the expression of the State Department that it is a fair division, is it not?

Mr. SHAW. Yes—well, now, I do not know that I am wholly accurate in saying that, Senator. Superficially and, I think, more or less nominally, it is said by representatives of the State Department that this is a fair and just treaty. But at a meeting at which the substance of this treaty was put before the Committee of Fourteen at Salt Lake City, in January 1944, the most primary reaction I have gained from the statements of the speakers for the State Department was that this was all they could get Mexico to take; that Mexico would not be satisfied with any less. But, of course, that is the weakest way to approach a bargain. If you say, "What will the other fellow take? Must I give him all that he demands?" then you are defenseless, and Mexico could say, "I demand 3,000,000 acre-feet," and you would have to give it to them.

The CHAIRMAN. Mexico did demand 3,600,000 acre-feet, did she not?

Senator TUNNELL. Mexico did demand 3,600,000 acre-feet, we were told yesterday.

Mr. SHAW. It is worse than that, Senator. At the commencement of the 1929 treaty discussion she demanded 4½ million acre-feet, and receded to 3,600,000, and then finally receded to 3,450,000 as her final gesture.

Senator TUNNELL. Do you concede that there is an advantage to the United States to have this question of moral right and legal right determined and fixed for all time?

Mr. SHAW. Yes; if it can be determined and fixed by a good treaty; not by a bad treaty.

Senator TUNNELL. If it is determined according to your view of the amount coming to the United States; is that it?

Mr. SHAW. My view and the views of many others.

Mr. TUNNELL. That is all.

The CHAIRMAN. Are there any other questions?

Senator MILLIKIN. Mr. Shaw, what is the present user by Mexico?

Mr. SHAW. I cannot answer that. That is an engineering proposition as to which one witness has testified to 1,800,000,000 acre-feet and other witnesses have testified or will testify to less figures.

Senator MILLIKIN. Assuming it to be 1,800,000, the treaty proposes 1,500,000 acre-feet, does it not?

Mr. SHAW. Yes, sir.

Senator MILLIKIN. Is not that somewhat an offset to the fact that we are regulating the water?

Mr. SHAW. I hardly think so, Senator.

Senator MILLIKIN. You are cutting back the use 20 percent?

Mr. SHAW. Yes; on a theoretical basis. I do not think the figure of 1,800,000 will stand up.

Senator MILLIKIN. Assuming it does, you are cutting it back 20 percent. A 20-percent cut-back from 1,800,000 acre-feet of water is a substantial amount of water.

Mr. SHAW. Yes, sir; and I pointed out to the committee, for that very reason, in my first testimony, Senator, that the very fact that Mexico has been short-changed by 300,000 acre-feet disposes of the theory

which counsel for the Boundary Commission presented to you as the theory of the State Department; namely, that existing uses at the very moment of the treaty must be protected. They have not done it. They have short-changed Mexico.

Senator MILLIKIN. On the one hand you gentlemen criticize the State Department for not doing good business, and the next moment, if it serves your argument, you criticize them for doing good business. You cannot ride the same horse in two different directions at the same time.

Mr. SHAW. I criticize them for presenting a theory that does not conform to their acts.

Senator MILLIKIN. You were criticizing the State Department for making a bad trading approach, but now you criticize them for getting a good trade.

Mr. SHAW. No; I criticize them for justifying the treaty upon a theory which does not conform to their acts.

Senator MILLIKIN. Let us say that is true, for the purpose of discussion. If it is established that there is 1,800,000 acre-feet used, a cut-back of 20 percent is a lot of water in any man's language, and it may be considered as compensation for things we have done on our side of the river.

Mr. SHAW. Let us put it another way. Suppose you were convinced that the actual use by Mexico was 1,100,000 instead of 1,800,000 acre-feet. Would you not think that the situation was somewhat different?

Senator MILLIKIN. If I were convinced that the established use were 1,100,000 acre-feet, I would not be for this treaty.

Mr. SHAW. Thank you. I appreciate that very much, Senator.

Senator MILLIKIN. Will you read the provision that you read from a while ago that has to do with the date of user at the time the treaty was made? There was a qualification on that. Would you mind reading that provision?

The CHAIRMAN. It was the Committee of Fourteen, I believe, that made a report, as I recall it.

Mr. SHAW (reading):

These uses—

Meaning uses to be protected—

are normally fixed as of the time the treaty is made. However, physical conditions and improvements on the river should be considered in fixing the time as of which the recognition of beneficial uses should be made.

Bear in mind, Senator, that in the typical treaty of the eight treaties presented by the State Department, natural flow alone is under consideration, and in none of them is the question of improvements mentioned. In one instance in the United States, the 1906 treaty with Mexico, the contemplation of a future improvement was a part of the picture.

May I say also, Senator, that this very question of natural flow rights was involved in every one of the decisions of the United States Supreme Court in actions between States over the equitable division of waters of the river. In all of them the Supreme Court considered the subject matter as of natural flow and not as of a right to be gained by the lower State in works constructed by the upper State. Those decisions which were presented to you, such as Kansas against Colorado, by counsel for the Boundary Commission, justify the contempla-

tion of equitable apportionment among nations, if it relates to the subject at all, only upon consideration of natural flow, not the apportionment to a lower nation, we will say, of an interest in works constructed by the upper nation.

Senator WHITE. I would like to find out what the view of you western people may be as to what is the natural flow of a stream.

Mr. SHAW. That term has been used loosely and is a little hard to apply, but is used habitually, we will say, by our engineers and lawyers to refer to the low summer flow of the stream which is susceptible of being put to use. The flood flows are thought of as being a different thing. A more accurate term for natural flow which, as I say, we use loosely, would be low summer flow. I say summer flow, because that is the period in which it is useful for irrigation purposes in most areas. It is never applied, as used in that loose way, to the flood flows which come down in the spring and the early part of the summer and are, unless conserved, useless for consumptive purposes.

Senator WHITE. Then, as you people of the West use the term "natural flow" you do not mean the flood flow?

Mr. SHAW. No.

Senator WHITE. You rather go to the other extreme and mean the minimum normal flow?

Mr. SHAW. Yes; and for a very practical reason, Senator. When we build great works—and some of these works are vast and tremendous—we have got to finance them and establish them upon something that is dependable; and if you have a great city to serve with water, whose inhabitants must have water to live, you have got to base your financing and development works upon that minimum flow.

Senator WHITE. Applying your rule, what has been the natural flow of the Colorado River before the building of the Boulder Dam?

Mr. SHAW. The range of the river—this is a quotation from memory of engineering figures which have been more or less accepted, Senator—the range of maximum and minimum recorded flow of the Colorado River has been as high as a flood flow of 240,000 second-feet of water; a second-foot being the passage of 1 cubic foot of water—

Senator WHITE. Up in our country we speak of the flow in cubic feet per second.

Mr. SHAW. It has been as high as 240,000 cubic feet in flood flow; as low as 1,200 cubic feet in summer. I am just giving you the extremes, now.

Senator WHITE. I wanted to get what the accepted meaning of the term "natural flow" of a stream was out in New Mexico, for instance.

Mr. SHAW. Well, those are the extreme recorded figures that I have given you. In 1 year it has gone down practically to zero at Yuma. Those are not averages, of course, or normal things. The normal thing is something like this. In the flood flow of the river you would have a discharge of from 75,000 to 150,000 second-feet of water, and commonly 100,000, we will say, coming down there in May and June, prior to the heaviest demands for irrigation. That water rushed down to the Gulf of California. Following that you had a period of 9 or 10 months when the normal expected flow would be between 5,000 and 10,000 second-feet. So you had that great quantity rushing down in those spring months doing no good, and you had to depend

upon the low 5,000 to 10,000 figure for the development of the works.

I might put it this way; this may aid your conception of it. Natural flow, just defined grammatically or according to the dictionary, means everything that nature puts in the river. So the use we have been speaking of is a technical use rather than a dictionary use of the term "natural flow," which does, in a dictionary sense, include flood flows. But we think of natural flow—I am thinking of the dependable flow by that term, because it is different from artificial flow. Conserving it causes it to flow artificially by conservation works, reservoirs, and dams.

Senator WHITE. Thank you. That is all.

The CHAIRMAN. Are there any further questions?

Senator McFARLAND. Mr. Shaw, using the words "normal flow" to mean that flow in the Colorado River which would have been there had the Boulder Dam not been built, for the purpose of this question, some of the engineers have testified here that the normal flow of the river, after the Boulder Dam was built, was such that there was sufficient water in the river for Mexico to have used most of the time the amount which she has used. Assuming that to be a fact, would that make any difference in what you believe to be the rights of Mexico?

Mr. SHAW. Possibly the answer to that is "yes" and "no." I think the emphasis should be laid on the "no," for this reason. What we in friendship should not do with a foreign nation is to disturb her existing civilization, the homes of her people. We should not dispossess them and force them to abandon them, as was done in the Juarez Valley. They were actually half depopulated, Senator. That should not occur. The mere physical possibility that you speak of, the possibility of water going down there which they did not put to use, which they, for lack of energy or for any other reason did not put to use, does not wholly, to my mind, settle the question.

Senator McFARLAND. No; but the proposition, as I understand they put it, is that there was sufficient water from which they could have appropriated, even though the Boulder Dam had not been built, and therefore they would have established this right just the same, and you should not cut it off at the building of the Boulder Dam, because the water was in the river and the right to appropriate established. If that is a fact—and I am not saying that it is or is not; I am not an engineer, and we will probably hear more engineering testimony before this hearing is over—if that is a fact we cannot set the date as the date of the building of the Boulder Dam, can we?

Mr. SHAW. I think so.

Senator McFARLAND. You think so? You mean that just because we built the Boulder Dam, which could not prevent and did not prevent the normal flow from going down that could be appropriated by Mexico, we would forever prohibit them from appropriating any more water?

Mr. SHAW. This may be a little extreme, Senator, but I suggest to you that the answer to your question is that even assuming, first, that there was water; second, that they could practicably get water out of the river and put it to use—those are the two things that your question assumes; are they not?

Senator McFARLAND. Yes; I am assuming those two things.

Mr. SHAW. The response is that they did not.

Senator McFARLAND. They have put it to use, however?

Mr. SHAW. I say they did not, prior—

Senator McFARLAND. Let us assume the third assumption, then, and let us say that the water was there, that they could take it out, and that they did take it out.

Mr. SHAW. If you assume all those things, then the principle which I have suggested to you of moral, fair treatment of a neighboring nation would require the conclusion that you suggest.

Senator McFARLAND. You do not agree that they have put to beneficial use over a million and a half acre-feet of water?

Mr. SHAW. Prior to the building of Boulder Dam; no, sir.

Senator McFARLAND. No; up to this time?

Mr. SHAW. I do not concede the fact, because that is an engineering fact on which I am not justified in giving you a positive statement. My opinion is that they have not.

Senator McFARLAND. That is the reason I was making my question a hypothetical question, because you would have to answer it on engineering data.

Then, if you assume those facts, does it not come down to this proposition, as to which engineers we find to be correct as to what the moral duty of the United States is in regard to Mexico?

Mr. SHAW. There is a little more than your judgment as to what engineer is correct. There is also the question of weighing which engineer is optimistic, because we have had a great many optimistic engineers in the West.

The CHAIRMAN. That is a question of the weight of the testimony. Can you not answer the question on assumption, one way or the other, and let it go at that? We will find the facts later.

Mr. SHAW. If, Senator, you have in mind the condition preceding Boulder Dam and assuming that water is in the river and that Mexico could practicably use it, and did use it, then I say that the moral principle that I have suggested should apply to it. If, however, you are conceiving some situation since Boulder Dam which would not have existed without Boulder Dam, Parker Dam, and so on, then I do not think the principle applies at all.

Senator McFARLAND. I am assuming a situation which has been testified to, but we will leave out the testimony for the moment. I am assuming that even with Boulder Dam built there was sufficient normal flow of water—and when I say “normal flow” I mean water that we could not have used even if we had used all the water we could have put to beneficial use by reason of the fact that Boulder Dam was built—there was sufficient water going down the river to Mexico to have supplied a duty of over 1½ million acre-feet per year. I am also assuming that they took advantage of that and did apply it to beneficial use and that they had facilities to apply it to beneficial use. I understand that you do not agree to these assumptions, but assuming them to be true, would you agree that Mexico did establish a moral right to the water?

Mr. SHAW. If I have got all the factors in your question properly sorted out in my mind, Senator, then I think that the principle of moral right or moral duty, which I mentioned, would apply to such situation, and if you found the facts to be such, then I would expect you to act accordingly.

Senator McFARLAND. Then it is going to come down to a question of engineering, largely, here, under your theory as to which engineers are better informed as to the facts, is it not?

Mr. SHAW. I think that the committee has that fact to determine, as well as the questions of law, of right, and of comity which I have suggested to you.

Senator McFARLAND. I thank you very kindly. Your answers have been very frank in that regard, and I appreciate it.

Senator DOWNEY. Mr. Chairman, I had hoped that I would not have to ask any questions, but I would like to ask one to clarify my own mind on this hypothetical question between Mr. Shaw and Senator McFarland, and, if I may be permitted, I will propound it to them jointly.

I did not understand whether, in the hypothesis assumed by Senator McFarland and answered by Mr. Shaw, it was assumed that 1,800,000 acre-feet was there in the normal flow of the river in such a way that they could have applied during the irrigation season that water, and 1,800,000 acre-feet could be applied by the run-off of the river around the 12 months.

Senator McFARLAND. I did not say irrigation season and I did not say 1,800,000 acre-feet. I said over one and a half million. I used the words "beneficial use." And without the words "beneficial use" I am sure Mr. Shaw would not have answered the question as he did.

Mr. SHAW. I understood the question to apply to the actual water used during the irrigation season in Mexico.

Senator McFARLAND. I said "beneficially used."

Mr. SHAW. Then, may I qualify my answer?

Senator McFARLAND. You might very well, when you have the water, raise different crops, depending on when the water comes. We frequently do that, do we not?

Mr. SHAW. Yes. May I put this qualification on my answer, that I understood the question involved the element of the actual use in Mexico of 1,500,000 acre-feet of water or more. If it were merely the potential capacity to use the water, Judge, then I would say that the United States had an equal right with Mexico, or perhaps a superior right, to appropriate and expand its uses, to use that particular water.

Senator McFARLAND. I put all three of those elements into my question.

The CHAIRMAN. May I ask you one or two questions?

Mr. SHAW. Certainly.

The CHAIRMAN. You concede, as a matter of fact, that prior to the building of Boulder Dam this water flowed down the river unimpeded and unhindered, and that Mexico, if she put that water to use, would have a moral right to continue to use it. Is that right?

Mr. SHAW. In the first place, all of the water flowed down——

The CHAIRMAN. I did not ask you about that. Can you not answer the question? If you cannot, I will pass on to something else. I ask you if, before Boulder Dam was built, water went down the river?

Mr. SHAW. Some water; yes.

The CHAIRMAN. And Mexico appropriated it and used it; and your contention is that she would be entitled to continue to use it?

Mr. SHAW. I think there is a moral right in that connection. May I say that some of the water, not all of it, flowed down the river. A large part of it was used in the United States.

The CHAIRMAN. Of course, I am not talking about the water that did not flow down the river. After Boulder Dam was built water continued to go down into Mexico, because we could not use it; we were not ready to use it and did not use it?

Mr. SHAW. That is correct.

The CHAIRMAN. It went on down into Mexico just as it had been going there before Boulder Dam. Is it your contention that Mexico, by using that water and applying it to beneficial uses, cannot acquire any right to it?

Mr. SHAW. Yes, sir.

The CHAIRMAN. That is your contention?

Mr. SHAW. Yes, sir.

The CHAIRMAN. Some witnesses say it will be 100 years before all the water can be utilized within the United States and all of it consumed.

Mr. SHAW. I so understand.

The CHAIRMAN. So your contention is that merely by the building of Boulder Dam Mexico will have to be denied for a 100 years the use of any more water than she used prior to the building of Boulder Dam, notwithstanding the testimony shows that 3,000,000 or 4,000,000 feet are going down that river now unused and wasted?

Mr. SHAW. I think the chairman has not exactly stated my view. It is this, that during the temporary period, whether it is 30 years or 100 years, Mexico can and should take and use all the water that comes down there and make every dollar she can. More power to her. But I say that by doing that, under notice by the United States that that will not create the building up of a right which must be recognized morally by the United States, then she does not gain that moral right.

The CHAIRMAN. Awhile ago you said that we should not interfere with a foreign country or cause her people to move out and give up rights which they had enjoyed theretofore. With all of those uncertainties and contingencies and possibilities, do you not think it desirable that the United States and Mexico agree on some kind of a treaty to settle that question?

Mr. SHAW. If it is a good treaty, I think it is highly desirable.

The CHAIRMAN. Do you not think it is desirable to get some kind of a treaty?

Mr. SHAW. No, sir.

The CHAIRMAN. I do not say, any kind; I said some kind of a treaty.

Mr. SHAW. No, sir.

The CHAIRMAN. You want to have a treaty, provided it fits your views?

Mr. SHAW. I want a treaty which fits the needs of the United States.

The CHAIRMAN. That is, according to what your views are?

Mr. SHAW. Yes, sir.

The CHAIRMAN. You are willing to have a treaty if they let you write it?

Mr. SHAW. I cannot speak anyone else's mind but my own.

The CHAIRMAN. Exactly. So, you are in favor of a treaty if it comports exactly with your views, and if it does not, you are against it?

Mr. SHAW. If, in my opinion, it is a bad treaty, it is a bad treaty.

The CHAIRMAN. You think we ought to have a treaty, but the only kind you will agree to is one that fits your ideas?

Mr. SHAW. No; one which, in my opinion, is a good treaty.

The CHAIRMAN. That is all.

Senator WILEY. Mr. Chairman, we have heard a lot of discussion about moral right. I suppose the question of morality is a two-way street. If we are considering the rights of Mexico we should also consider the rights of our own nationals?

Mr. SHAW. I hope so.

Senator WILEY. I have not arrived at any decision in this matter—I want to say that—and there are some things that I am not clear about. St. Paul says, you know, that he who does not look after the rights of his own household is not worthy. We want to be fair and just to Mexico, but at the same time we do not want to give away our birth-right. Is that what you consider as a moral issue?

Mr. SHAW. Yes, sir. I feel that the United States of America owes to its own people at least as much moral consideration as it owes to any other nation, and possibly a bit more. I would not be decisive about that. There are those that think so.

Senator WILEY. That is all.

STATEMENT OF EDWARD HYATT, STATE ENGINEER, SACRAMENTO, CALIF.

The CHAIRMAN. State your name and position, Mr. Hyatt, and then proceed with your statement, please.

Mr. HYATT. Mr. Chairman and members of the committee, my name is Edward Hyatt. I am State engineer and chief of the division of water resources of California and also a member of the California District Securities Commission. I have been State engineer since 1927. The duties of the State engineer include the administration of statutory State water rights, and the district securities commission has to do with financial affairs of irrigation districts. It is on these two points, namely, water rights and district finances, that I wish to present information to the committee, to explain certain documents, and, with the approval of the committee, to introduce some of them into the record of this hearing.

Subsequent to the enactment of the Boulder Canyon Project Act in 1928, and the California Limitation Act of 1929, California interests desiring to proceed with projects approached the Secretary of the Interior to obtain water contracts as authorized in the Boulder Canyon Project Act. The Secretary of the Interior replied that it would be impossible to insert a definite contract figure until the State of California had recommended to him an apportionment of the California share of the waters of the Colorado River, and that the devision of California's share among various California interests was a matter that the State and not the Department should work out and recommend to the Department. This information was contained in a letter dated November 5, 1930, from the Secretary to the Imperial irrigation district, copies being sent to the other California interests and to the State engineer.

The letter enclosed a draft of recommendation to be made by the California Division of Water Resources to the Secretary. This draft contained three main tables with blanks to be filled in. The first table would have apportioned compact III (a) water, which is 4,400,000 acre-feet, between Imperial, Coachella, Palo Verde, the Yuma recla-

mation project, the metropolitan district, Indian reservations, and possibly others. The second table would have apportioned California's share of compact III (b) water, which is 1,000,000 acre-feet to the lower basin; and the third table, water which might be available to California over and above the foregoing, which is presumably surplus.

At this point, Mr. Chairman, I should like to introduce a certified copy of this letter from the Secretary of the Interior, dated November 5, 1930.

The CHAIRMAN. You may put it in the record. Put all you want in the record.

(The letter of November 5, 1930, from the Secretary of the Interior to the Imperial irrigation district, is as follows:)

DEPARTMENT OF THE INTERIOR,
Washington, November 5, 1930.

The IMPERIAL IRRIGATION DISTRICT,
El Centro, Calif.

DEAR SIR: It has been pointed out to me by the attorneys drafting the proposed All-American Canal reimbursement contract that it will be impossible to insert a definite figure to cover the quantity of water to be delivered under that contract until the State of California has recommended to us an apportionment of the California share of the waters of the Colorado River. While an agreement between the metropolitan water district and the agricultural group, so-called, has been submitted to the Department, we have no information as to the division between the Palo Verde irrigation district, the Yuma project in California, and the proposed contractors for All-American Canal water. In addition we have been advised by the city and county of San Diego that it claims certain rights, and it may be necessary for you to take up with the Office of Indian Affairs the question of providing water to certain Indian reservations in California.

In any event, the division of California's share of Colorado River water among various California interests is a matter which the State and not the Department of the Interior should work out and recommend to the Department.

Accordingly, there is enclosed a draft of recommendations which the California Division of Water Rights might submit to the Department of the Interior, after it has determined what figures and provisions should be inserted in the blanks. This allocation, when finally determined, presumably through agreement of all interests and approval by the proper State authority, might well be included as a uniform clause in every California water contract. Prior to submission of final recommendation by the State, it will be desirable to have a draft available here in order to determine whether there has been a satisfactory disposition of the questions of water apportionment which must be solved in the water contracts.

Copies of this letter are being sent to the State division of water rights, the metropolitan water district, the Palo Verde irrigation district of water rights, the the Bureau of Indian Affairs, the city and county of San Diego, and the Coachella Valley county water district.

Very truly yours,

RAY LYMAN WILBUR.

DRAFT OF RECOMMENDATION TO BE MADE BY THE CALIFORNIA DIVISION OF WATER
RIGHTS TO THE SECRETARY OF THE INTERIOR

It is recommended that the waters which may be available to California under the Colorado River compact, as limited by the Boulder Canyon Project Act, be apportioned as follows:

I. Of the water which may be available to California by paragraph (a) of article III of the Colorado River compact:

	<i>Acre-feet</i>
To Imperial irrigation district.....	-----
To Coachella Valley county water district.....	-----
To Palo Verde irrigation district.....	-----
lands of the Yuma project in California.....	-----
To the metropolitan water district of southern California.....	-----
Indian reservations, as itemized below.....	-----
To	-----

In case of shortage, the water available shall be delivered as follows:

II. Of the water which may be available to California by paragraph (b) of article III of the Colorado River compact:

Acre-feet

To the metropolitan water district	-----	-----
To Indian reservations	-----	-----
To _____	-----	-----
To _____	-----	-----
To _____	-----	-----
To _____	-----	-----

In case of shortage the water available shall be delivered as follows:

III. Of the water which may be available to California over and above the foregoing:

Acre-feet

To _____	-----	-----
To _____	-----	-----

In case of shortage the water available shall be delivered as follows:

IV. The metropolitan water district may accumulate unused diversion rights as follows, provided that the rights of the United States shall not thereby be affected:

STATE OF CALIFORNIA,

Department of Public Works, Division of Water Resources, ss:

CERTIFICATE 3965

I, Katherine A. Feeny, chief clerk of the division of water resources, department of public works, State of California, do hereby certify that I have carefully compared the attached copy and that the same is a true, full, complete, and correct copy of a document dated November 5, 1930, on file in this office which purports to be a copy of a letter from the Secretary of the Interior of the United States to Imperial irrigation district, California.

Witness my hand and the seal of the department of public works, State of California, this 16th day of January 1945.

[SEAL]

KATHERINE A. FEENY,

Chief Clerk, Division of Water Resources.

Mr. HYATT. The situation at that time, November 1930, was that the Secretary refused to execute contracts with California interests until the State submitted to him a recommended apportionment among California applicants of Colorado River water available to California under the compact, the Boulder Canyon Project Act, and the California Limitation Act.

Such an apportionment was a matter of great difficulty on account of diverse and conflicting claims of California interests. After much correspondence and preliminary effort, the matter finally came to a head in the summer of 1931, when I called a series of meetings, or hearings, to draw the recommendation to the Secretary. These meetings, held in Los Angeles and other places, were attended by the California water interests and by representatives of the Department of the Interior and the Bureau of Reclamation and were given considerable publicity. They proceeded during June, July, and August of that year and resulted in agreement upon the execution, on August 18, 1931, of a document popularly called the seven-party agreement. It was signed by the representatives of Palo Verde, Imperial, Coachella, the metropolitan water district, the city of Los Angeles, the city of San Diego, tion for water for 25,000 acres.

and the county of San Diego, and stated that Colorado River water available to California should be apportioned as follows:

A first priority to Palo Verde for water for 104,500 acres.

A second priority to the Yuma project of the Bureau of Reclama-

A third priority to Imperial, Coachella, and Palo Verde for 3,850,000 acre-feet per annum, less the use under priorities 1 and 2.

Thus the total under priorities 1, 2, and 3 is 3,850,000 acre-feet.

A fourth priority to the metropolitan district and the city of Los Angeles for 550,000 acre-feet.

Therefore, the total of the first four priorities is 4,400,000 acre-feet, which is California's allotment of compact III (a) water.

A fifth priority to the metropolitan district and the city of Los Angeles for 550,000 acre-feet, and to the city and county of San Diego for 112,000 acre-feet.

A sixth priority to Imperial, Coachella, and Palo Verde districts of 300,000 acre-feet.

Thus there was recommended to be apportioned by this agreement a total of 5,362,000 acre-feet.

The CHAIRMAN. That is in excess of your limitation of 4,400,000 acre-feet, is it not?

Mr. HYATT. It is in excess of 4,400,000 acre-feet; certainly.

The CHAIRMAN. That was the quota, was it not, for California?

Mr. HYATT. That was in the compact III (a) water; and, of course, there was additional water beyond that.

Senator MCFARLAND. That additional water, according to your limitation, is confined to half the surplus, is it not?

Mr. HYATT. Well, the Secretary sent this blank—

Senator MCFARLAND. Well, I am just asking the question. That is the act of your legislature, is it not?

Mr. HYATT. The compact III (a) water is 4,400,000 acre-feet.

• Senator MCFARLAND. The remainder is surplus, and you limited yourself to half of the surplus?

Mr. HYATT. I think that is correct.

Senator MCFARLAND. I do not want to interrupt, Mr. Chairman, but when they talk about III (b)—and I do not want to get into any discussion—we would seriously question—Arizona has always, and I do not think there is any question about the law, and I think my friends from California will agree with me—that they do not have any right to III (b) water. So we cannot let a statement like that go by without challenging it.

Senator WILEY. That water that does come down is usable in the United States. That is his only contention here.

Mr. HYATT. I am simply reporting the recommendations made to the Secretary of the Interior in accordance with his requests.

A seventh priority of all remaining water available for use in California for agricultural use in the Colorado River Basin in California.

At this point I should like to introduce the seven-party agreement, which has been described.

The CHAIRMAN. It may be admitted.

(The seven-party agreement is as follows:)

AGREEMENT REQUESTING THE DIVISION OF WATER RESOURCES OF THE STATE OF CALIFORNIA TO APPORTION CALIFORNIA'S SHARE OF THE WATERS OF THE COLORADO RIVER AMONG THE VARIOUS APPLICANTS AND WATER USERS THEREFROM IN THE STATE, CONSENTING TO SUCH APPORTIONMENTS, AND REQUESTING SIMILAR APPORTIONMENTS BY THE SECRETARY OF THE INTERIOR OF THE UNITED STATES

This Agreement, made the 18th day of August 1931, by and between Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan Water District of Southern California, City of Los Angeles, City of San Diego, and County of San Diego:

Witnesseth:

Whereas the Secretary of the Interior did, on November 5, 1930, request of the Division of Water Resources of California a recommendation of the proper apportionments of the water of and from the Colorado River to which California may be entitled under the provisions of the Colorado River Compact, the Boulder Canyon Project Act, and other applicable legislation and regulations, to the end that the same could be carried into each and all of the contracts between the United States and applicants for water contracts in California as uniform clause; and

Whereas the parties hereto have fully considered their respective rights and requirements in cooperation with the other water users and applicants and the Division of Water Resources aforesaid;

Now, therefore, the parties hereto do expressly agree to the apportionments and priorities of water of and from the Colorado River for use in California as hereinafter fully set out and respectfully request the Division of Water Resources to, in all respects, recognize said apportionments and priorities in all matters relating to State authority and to recommend the provisions of Article I hereof to the Secretary of the Interior of the United States for insertion in any and all contracts for water made by him pursuant to the terms of the Boulder Canyon Project Act, and agree that in every water contract which any party may hereafter enter into with the United States, provisions in accordance with Article I shall be included therein if agreeable to the United States.

ARTICLE I

The waters of the Colorado River available for use within the State of California under the Colorado River Compact and the Boulder Canyon Project Act shall be apportioned to the respective interests below named and in amounts and with priorities therein named and set forth, as follows:

SECTION. 1. A first priority to Palo Verde Irrigation District for beneficial use exclusively upon lands in said District as it now exists and upon lands between said District and the Colorado River, aggregating (within and without said District) a gross area of 104,500 acres, such waters as may be required by said lands.

SEC. 2. A second priority to Yuma Project of United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said project in California, such waters as may be required by said lands.

SEC. 3. A third priority (a) to Imperial Irrigation District and other lands under or that will be served from the All American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the Lower Palo Verde Mesa, adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 3,850,000 acre-feet of water per annum less the beneficial consumptive use under the priorities designated in Sections 1 and 2 above. The rights designated (a) and (b) in this section are equal in priority. The total beneficial consumptive use under priorities stated in Sections 1, 2, and 3 of this article shall not exceed 3,850,000 acre-feet of water per annum.

SEC. 4. A fourth priority to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum.

SEC. 5. A fifth priority (a) to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum and (b) to the City of San Diego and/or County of San

Diego, for beneficial consumptive use, 112,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SEC. 6. A sixth priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the Lower Palo Verde Mesa, adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 300,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SEC. 7. A seventh priority of all remaining water available for use within California, for agricultural use in the Colorado River Basin in California, as said basin is designated on Map No. 23000 of the Department of the Interior, Bureau of Reclamation.

SEC. 8. So far as the rights of the allottees named above are concerned, the Metropolitan Water District of Southern California and/or the City of Los Angeles shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said District and/or said City (not exceeding at any one time 4,750,000 acre-feet in the aggregate) by reason of reduced diversions by said District and/or said City; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between said District and/or said City and such users resulting therefrom.

SEC. 9. In addition, so far as the rights of the allottees named above are concerned, the City of San Diego and/or County of San Diego shall have the exclusive right to withdraw and divert into an aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said City and/or said County (not exceeding at any one time 250,000 acre-feet in the aggregate) by reason of reduced diversions by said City and/or said County; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other states without distinction in priority, and to determine the correlative relations between the said City and/or said County and such users resulting therefrom.

SEC. 10. In no event shall the amounts allotted in this agreement to the Metropolitan Water District of Southern California and/or the City of Los Angeles be increased on account of inclusion of a supply for both said District and said City, and either or both may use said apportionments as may be agreed by and between said District and said City.

SEC. 11. In no event shall the amounts allotted in this agreement to the City of San Diego and/or to the County of San Diego be increased on account of inclusion of a supply for both said City and said County, and either or both may use said apportionments as may be agreed by and between said City and said County.

SEC. 12. The priorities hereinbefore set forth shall be in no wise affected by the relative dates of water contracts executed by the Secretary of the Interior with the various parties.

ARTICLE II

That each and every party hereto who has heretofore filed an application or applications for a permit or permits to appropriate water from the Colorado River requests the Division of Water Resources to amend such applications as far as possible to bring it of them into conformity with the provisions of this agreement; and each and every party hereto who has heretofore filed a protest or protests against any such application or applications of other parties hereto does hereby request withdrawal of such protest or protests against such application or applications when so amended.

ARTICLE III

That each and all of the parties to this agreement respectfully request that the contract for delivery of water between the United States of America and The Metropolitan Water District of Southern California under date of April 24, 1930, be amended in conformity with Article I hereof.

In witness whereof, the parties hereto have caused this agreement to be executed by their respective officers thereunto duly authorized, the day and year first above written. Executed in seven originals.

Recommended for Execution.

Palo Verde Irrigation District, by Ed J. Williams, Arvin B. Shaw, Jr.; Imperial Irrigation District, by Mark Rose, Chas. L. Childers, M. J. Dowd; Coachella Valley County Water District, by Thos. C. Yager; The Metropolitan Water District of Southern California, by W. B. Matthews, C. C. Elder; City of Los Angeles, by W. W. Hurlbut, C. A. Davis; City of San Diego, by C. L. Byers, H. N. Savage; County of San Diego, by H. N. Savage, C. L. Byers.

STATE OF CALIFORNIA,

Department of Public Works, Division of Water Resources, ss.:

CERTIFICATE 3966

I, Katherine A. Feeny, Chief Clerk of the Division of Water Resources, Department of Public Works, State of California, do hereby certify that I have carefully compared the attached copy and that the same is a true, full, complete, and correct copy of a document on file in this office entitled "Agreement Requesting the Division of Water Resources of the State of California to apportion California's Share of the Waters of the Colorado River Among the Various Applicants and Water Users Therefrom in the State, Consenting to such Apportionments, and Requesting Similar Apportionments by the Secretary of the Interior of the United States," dated August 18, 1931.

WITNESS my hand and the seal of the Department of Public Works, State of California, this 16th day of January 1945.

[SEAL]

KATHERINE A. FEENY,
Chief Clerk, Division of Water Resources.

Mr. HYATT. It is to be noted at this point that one California interest, the Chucawalla Valley, appeared at the meetings desiring an apportionment, but obtained none, unless under priority 7. The Chucawalla Valley, near the Palo Verde irrigation district and the river, claimed over 154,000 acres of good land which could be irrigated from the river with a reasonable pumping lift, but it has neither an apportionment in this agreement nor a contract with the Secretary.

On August 22, 1931, I forwarded this agreement to the Secretary of the Interior as an answer to his request of November 5, 1930, for a recommended apportionment. The letter of transmittal points out that—

In case of shortage the last right shall be the first to be cut off, and so on in inverse order of priority unless other temporary agreement is made when the emergency arises.

This letter of August 22, 1931, I should like to put in the record. It simply transmits the recommendations to the Secretary.

The CHAIRMAN. Very well.

(The letter of August 22, 1931, from the State engineer to the Secretary of the Interior, is as follows:)

AUGUST 22, 1931.

ALLOCATION COLORADO RIVER WATER

HON. RAY LYMAN WILBUR,

Secretary of the Interior, Washington, D. C.

MY DEAR SECRETARY: In response to your letter of November 5, 1930, to Imperial irrigation district, suggesting that this office submit recommendations to the Department of the Interior as to the division of California's share of Colorado River water among the various California interests, the following recommendations are made:

1. The division shall be made in accordance with article I of agreement of August 18, 1931, copies of which are attached.

2. In case of shortage the last right shall be the first to be cut off and so on in inverse order of priority unless other temporary agreement is made when the emergency arises. This point is covered in article I, but is here reiterated on account of the specific query in your letter of November 5, 1930.

3. Water for Indian lands in California should be charged to California's share of Colorado River water. No recommendation is made as to priority of such rights, but it is felt that sufficient water remains unallocated in California's share to take care of them.

The attached agreement was recommended for execution and signed by representatives of all interests in California using or proposing to use Colorado River water except the proposed Chuckwalla irrigation district. There still remains, according to conservative estimates, water which might be allocated to this area, but representatives of the district decided to remain out of the agreement. Section 7 of article II indicates that the door is not closed to future diversions by them.

The recommended allocation to all interests is made at this time although this office does not know whether or not the directing boards of the various interests have ratified the agreement in accord with recommendations of their representatives. It is believed that they will ratify them and when this is done and the separate agreements with the new signatures received in this office, copies will be sent to you.

This recommendation is made, however, without regard to final ratification as it is felt that the provisions of article I will fully provide for development in each case.

Four copies of the agreement are enclosed, of which two are mimeographed, showing the representatives who signed the agreement. The other two copies are as submitted for ratification by the board of directors, and contain no signature names.

Very truly yours,

EDWARD HYATT, *State Engineer.*

STATE OF CALIFORNIA,

Department of Public Works, Division of Water Resources, ss:

CERTIFICATE 3067

I, Katherine A. Feeny, chief clerk of the division of water resources, department of public works, State of California, do hereby certify that I have carefully compared the attached copy and that the same is a true, full, complete, and correct copy of a letter dated August 22, 1931, on file in this office to the Secretary of the Interior of the United States from Edward Hyatt, State engineer of California.

Witness my hand and the seal of the department of public works, State of California, this 16th day of January 1945.

[SEAL]

KATHERINE A. FEENY,

Chief Clerk, Division of Water Resources.

Mr. HYATT. The Secretary, on September 28, 1931, issued general regulations covering water contracts, and these regulations include the schedule contained in the Seven Party Agreement.

I should like to introduce these regulations.

The CHAIRMAN. They may be received.

(The regulations referred to are as follows:)

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

Washington, D. C.

CERTIFICATE

Pursuant to the provisions of the act of Congress approved August 24, 1912 (37 Stat. 497), I hereby certify that the annexed copy of General Regulations, dated September 28, 1931, Covering Contracts for the Storage of Water in Boulder Canyon Reservoir, Boulder Canyon project, and the Delivery Thereof, constitutes a full, true, and literal exemplification of said General Regulations contained in the official files in the custody of this office.

In witness whereof, I have hereunto set my hand and caused the seal of the Bureau of Reclamation to be affixed, this 26th day of January, A. D. 1945.

[SEAL]

H. W. BASHORE,
Commissioner, Bureau of Reclamation.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, September 28, 1931.

GENERAL REGULATIONS: CONTRACTS FOR THE STORAGE OF WATER IN BOULDER CANYON RESERVOIR, BOULDER CANYON PROJECT, AND THE DELIVERY THEREOF

1. No person shall have or be entitled to have the use for any purpose of the water stored in Boulder Canyon Reservoir except by contract made in pursuance of these regulations. All contracts for delivery of water shall be subject to all the terms and provisions of the Colorado River Compact and of the Boulder Canyon Project Act.

2. The right is reserved to amend or extend these regulations from time to time consistently with said compact and the laws of Congress, as the public need may require.

3. Storage water in Boulder Canyon Reservoir will be delivered upon such terms and conditions as the Secretary may fix from time to time by regulations and contracts thereunder. Water so contracted for may be delivered at such points on the river as may be agreed upon for irrigation and domestic uses.

4. Contracts respecting water for irrigation and domestic uses shall be for permanent service, and shall conform to Paragraph a, of Section 4, of the Boulder Canyon Project Act.

5. No charge shall be made for water or for the use, storage or delivery of water for irrigation or for water for potable purposes in the Imperial and Coachella Valleys. Charges otherwise shall be fixed by regulation from time to time. Where water is permitted by the Secretary to be taken from the Colorado River from the reservoir above the Hoover Dam, the utilization of the power plant will be impaired to that extent, and the right is reserved to make a higher charge for water taken above the dam, than if delivery is made below the dam.

6. Subject to the provisions of Article 7 of these regulations, deliveries of water to users in California shall be in accordance with the following recommendation of the State Division of Water Resources:

"The waters of the Colorado River available for use within the State of California under the Colorado River Compact and the Boulder Canyon Project Act shall be apportioned to the respective interests below named and in amounts and with priorities therein named and set forth, as follows:

"SECTION 1. A first priority to Palo Verde Irrigation District for beneficial use exclusively upon lands in said District as it now exists and upon lands between said District and the Colorado River, aggregating (within and without said District) a gross area of 104,500 acres, such waters as may be required by said lands.

"SEC. 2. A second priority to Yuma Project of United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said project in California, such waters as may be required by said lands.

"SEC. 3. A third priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 3,850,000 acre-feet of water per annum less the beneficial consumptive use under the priorities designated in Sections 1 and 2 above. The rights designated (a) and (b) in this section are equal in priority. The total beneficial consumptive use under priorities stated in Sections 1, 2, and 3 of this article shall not exceed 3,850,000 acre-feet of water per annum.

"SEC. 4. A fourth priority to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum.

"Sec. 5. A fifth priority (a) to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum and (b) to the City of San Diego and/or County of San Diego, for beneficial consumptive use, 112,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

"Sec. 6. A sixth priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 300,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

"Sec. 7. A seventh priority of all remaining water available for use within California, for agricultural use in the Colorado River Basin in California, as said basin is designated on Map No. 23000 of the Department of Interior, Bureau of Reclamation.

"Sec. 8. So far as the rights of the allottees named above are concerned, the Metropolitan Water District of Southern California and/or the City of Los Angeles shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said District and/or said City (not exceeding at any one time 4,750,000 acre-feet in the aggregate) by reason of reduced diversions by said District and/or said City; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided, further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between said District and/or said City and such users resulting therefrom.

"Sec. 9. In addition, so far as the rights of the allottees named above are concerned, the City of San Diego shall have the exclusive right to withdraw and divert into an aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said City and/or said County (not exceeding at any one time 250,000 acre-feet in the aggregate) by reason of reduced diversions by said City and/or said County; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between the said City and/or said County and such users resulting therefrom.

"Sec. 10. In no event shall the amounts allotted in this agreement to the Metropolitan Water District of Southern California and/or the City of Los Angeles be increased on account of inclusion of a supply but both said District and said City, and either or both may use said apportionments as may be agreed by and between said District and said City.

"Sec. 11. In no event shall the amounts allotted in this agreement to the City of San Diego and/or to the County of San Diego be increased on account of inclusion of a supply for both said City and said County, and either or both may use said apportionments as may be agreed by and between said City and said County.

"Sec. 12. The priorities hereinbefore set forth shall be in nowise affected by the relative dates of water contracts executed by the Secretary of the Interior with the various parties."

7. The Secretary reserves the right to contract with any of the allottees above-named in accordance with the above-stated recommendation, or, in the event that such recommendation as to Palo Verde Irrigation District is superseded by an agreement between all the above allottees or by a final judicial determination, to contract with the Palo Verde Irrigation District in accordance with such agreement or determination: *Provided*, That priorities numbered fourth and fifth in said recommendation shall not thereby be disturbed.

RAY LYMAN WILBUR,
Secretary of the Interior.

Mr. HYATT. On November 6, 1931, the Secretary sent me a letter, from which the following is quoted:

I am pleased to advise you that the water allocation contained in the agreement of August 18, forwarded by your letter of August 22, has been incorporated in the regulations and in the All-American Canal contract. It will subsequently be carried into each of the water contracts made by the Department.

I wish to take this opportunity to express my appreciation for your excellent accomplishment of a very difficult task. I think that the allocation agreed upon and recommended by you is fair and a sensible solution of what might have been a prolonged controversy.

I should like to introduce this letter.

The CHAIRMAN. Very well.

(The letter of November 6, 1931, from the Secretary of the Interior to the State engineer, is as follows:)

DEPARTMENT OF THE INTERIOR,
THE SECRETARY OF THE INTERIOR,
Washington, November 6, 1931.

Hon. EDWARD HYATT,
State Engineer, Division of Water Resources,
Sacramento, Calif.

DEAR MR. HYATT: I am enclosing a copy of the draft of contract for repayment of the cost of the All-American Canal and a copy of the Department's amended water regulations. I am also enclosing a copy of my memorandum decision of November 4 on objections to the form of the All-American Canal contract. I am pleased to advise you that the water allocation contained in the agreement of August 18, forwarded by your letter of August 22, has been incorporated in the regulations and in the All-American Canal contract. It will subsequently be carried into each of the water contracts made by the Department.

I wish to take this opportunity to express my appreciation for your excellent accomplishment of a very difficult task. I think that the allocation agreed upon and recommended by you is fair and a sensible solution of what might have been a prolonged controversy. I regret that the Palo Verde irrigation district has not taken advantage of the very liberal allocation to that district and has not yet ratified the allocation agreement. As pointed out in the enclosed memorandum decision, the fear of that district that it is losing a right to assign water rights is not well founded. Incorporated in the All-American Canal contract is a reservation by the Secretary of authority to contract either in accordance with your recommendation, or a new agreement, or a judicial determination. As I am advised that a judicial determination of the water rights sought to be assigned would be a necessary step in any transfer of water rights, it appears to me that Palo Verde may very well ratify the agreement, attaching to it a reservation to the same effect.

Again permit me to thank you for the cooperation you have shown in answer to my request for a recommendation.

Very truly yours,

RAY LYMAN WILBUR.

STATE OF CALIFORNIA,
Department of Public Works,
Division of Water Resources, ss.:

CERTIFICATE 3971

I, Katherine A. Feeny, chief clerk of the division of water resources, department of public works, State of California, do hereby certify that I have carefully compared the attached copy of letter by Ray Lyman Wilbur, Secretary of the Interior, to Edward Hyatt, State engineer of California, dated November 6, 1931, with, and that the same is a true, full, complete and correct copy of the original of said letter on file in this office.

Witness my hand and the seal of the department of public works, State of California, this 30th day of January 1945.

[SEAL]

KATHERINE A. FEENY,
Chief Clerk, Division of Water Resources.

Senator WILEY. What was the total amount?

Mr. HYATT. The total apportionment would be 5,362,000 acre-feet.

Senator WILEY. That makes the total, and he agreed that that is a fair proportion?

Mr. HYATT. Yes, sir.

The CHAIRMAN. He meant as between the different priorities, of course. That is what you are talking about?

Senator WILEY. Surely. It could not in any wise injure the rights under the compact to any of this surplus water that has been testified to. He reached the conclusion that this was a fair apportionment that you had made?

Mr. HYATT. That is what his letter says, sir.

Subsequent to the signing of the agreement, each of the seven California agencies concerned ratified it formally, and each of the five areas to which water was apportioned has executed a contract with the Secretary for the amount of water set forth in the agreement, and each contract recites the agreement in full.

Summarizing what has been said, the Secretary of the Interior requested an apportionment of Colorado River water available to California, representatives of his office and of the Bureau of Reclamation participated in the meetings which led up to the seven-party agreement, and the Secretary accepted and approved this recommended apportionment through his regulations, by including it in all California contracts, and by stating that he believed it fair and sensible.

Turning now to the action of the California District Securities Commission, of importance in connection with the proposed treaty, the commission is a statutory body consisting of the attorney general, the superintendent of banks, the State engineer, and two members appointed by the Governor. Its duties relate to irrigation district finances and include reporting upon proposed district bond issues. If the commission reports favorably upon the feasibility of a proposed project and bond issue, the bonds are entitled to certification as legal investments for trust funds and those of insurance companies, banks, and trust companies; for State school funds, any funds which may be invested in county, municipal, or school district bonds; and are given other preferences. The law states that the bonds are "entitled to these privileges by virtue of an examination by the California District Securities Commission."

In making its examination, the Commission must report upon each detail that, in its opinion, may "have any bearing upon the feasibility and economic soundness of the project," including "the supply of water available for the project and the extent of the right of the district thereto."

The practical effect of this law has been that irrigation district bond issues have been unsalable without Commission approval and certification, and a great many district bond issues in all parts of California have been passed upon. The Commission does not take its duties lightly in this connection but makes thorough investigations and reports, covering water rights and all other items affecting feasibility.

Since the execution of contracts between the Secretary and California interests for water from Boulder Dam, the commission has

approved several projects and bond issues dependent on Colorado River water. These are:

Palo Verde irrigation district, commission report No. 10, dated August 10, 1934, validating \$1,039,423 in refunding district bonds. The report states as conclusion No. 1:

The supply of water available is sufficient for the district's needs under the present plan.

It then finds favorably as to soils, drainage, values, and other matters, states that the bonds are entitled to certification; and sets forth an interest rate and maturity schedule for the bonds.

Next is commission order No. 68, Imperial irrigation district, dated September 12, 1934, which approves a refunding bond issue of \$14,250,000. It finds favorably as to water rights, states that the bonds are entitled to certification, and is otherwise similar to the Palo Verde order just explained.

Then there is commission order No. 72, Imperial irrigation district, dated June 22, 1937, which validates \$700,000 of power revenue bonds, with similar provisions.

Order No. 73, Imperial irrigation district, dated June 22, 1937, validates \$1,518,000 of power revenue bonds, with similar provisions.

In the same manner, orders Nos. 75, 80, and 85, Imperial irrigation district, dated November 18, 1938, June 21, 1943, and October 7, 1943, validate bonds in the amounts of \$1,045,000, \$13,815,000, and \$6,000,000, respectively.

Under another section of the law, the Commission must report on certain proposed contracts between districts and the United States, and since 1931 the commission has reported favorably on three such contracts which depend on use of Colorado River water. Each report finds the water supply sufficient, and the contract to be for the best interests of the district and the landowners. These orders are:

No. 63, Imperial district, dated December 30, 1931.

No. 64, Imperial district, dated December 16, 1932.

No. 1, Coachella Valley County water district, dated August 10, 1934.

The contracts cover the construction of the All-American Canal, and under them the two districts obligated themselves to the repayment of a minimum of \$38,500,000.

I should like to submit for the files of the committee, not necessarily for printing in the record, the orders to which I have referred.

The CHAIRMAN. That may be done.

(The orders referred to are filed with the Senate Committee on Foreign Relations.)

Mr. HYATT. By these examinations, reports, and orders, exclusive of duplications, the Commission has approved three contracts between the United States and California districts, obligating the districts to the repayment of \$38,500,000, and has approved for certification \$24,552,000 in district bonds, all orders finding adequate water supplies available. In each case, the Colorado River is the source, and the adequacy in each case was evidenced by a formal executed contract between the particular district and the Secretary of the Interior covering the storage and delivery of an adequate amount of water. The bonds have been issued and sold and are in the hands of investors throughout the country. They carry the endorsement and certification

of the State of California, which depends as to water supply on the contracts between the districts and the Secretary of the Interior.

I thank you, Mr. Chairman. I have taken only 15 minutes.

The CHAIRMAN. I congratulate you. I hope your difficulty becomes epidemic.

Senator WILEY. He is an engineer of time.

Senator MILLIKIN. Mr. Chairman—

The CHAIRMAN. Senator Millikin.

Senator MILLIKIN. Mr. Chairman, I should like to ask the witness whether the Securities Commission to which he refers was cognizant of the place, in the governing contracts, of the compact among the seven States at the time it approved these security flotations.

Mr. HYATT. Yes, sir.

Senator MILLIKIN. So the Commission was cognizant of the fact that the compact, for example, foreshadowed a treaty with Mexico?

Mr. HYATT. Well, I do not know as to that. It was certainly cognizant of the compact, the Boulder Canyon Project Act, and the California Limitation Act, and at the request of the Secretary it made this apportionment.

The district then executed formal, firm contracts with the Secretary of the Interior, and the Commission, relying on those contracts and their validity then certified the bonds.

Senator MILLIKIN. Mr. Reporter, would you please read my question?

The REPORTER (reading):

So the Commission was cognizant of the fact that the compact, for example, foreshadowed a treaty with Mexico?

Mr. HYATT. I do not know that the compact does, Senator. I am not with you on that.

Senator MILLIKIN. Well, let us see.

The CHAIRMAN. He says he does not know; so if he does not know, he cannot answer.

Senator WILEY. We do not know either.

Senator MILLIKIN. To refresh the memory of the witness, I will see if I can conveniently find this in the compact.

The CHAIRMAN. While the Senator is looking that up, I might ask the witness a question.

Do you know how much revenue the Imperial Valley has been getting from Mexico for the sale and delivery of water?

Mr. HYATT. No, sir.

The CHAIRMAN. Why do you not know? What is your position?

Mr. HYATT. I am State engineer of California.

The CHAIRMAN. And you do not know that?

Mr. HYATT. No, sir.

The CHAIRMAN. You passed on that? You are connected with the securities commission, too?

Mr. HYATT. Yes, sir.

The CHAIRMAN. You passed on these bonds, and they are bonds of the Imperial Valley?

Mr. HYATT. Yes.

The CHAIRMAN. Would not that necessarily be one of the elements in your figuring out whether these bonds were properly issuable,

namely, the revenue the Imperial Valley would get from the water which she sells to Mexico? You know that, do you not?

Mr. HYATT. I do not know how much money they got from Mexico, if any.

The CHAIRMAN. You do not know whether or not they got any? You are here telling us matters about which you are supposed to know more than we do. Do you mean to say you do not know whether the Imperial Valley got any money from Mexico for the sale or delivery of water?

Mr. HYATT. Well, I think they did.

The CHAIRMAN. Why did you say awhile ago that you did not know anything about it?

Mr. HYATT. I said I did not know how much.

The CHAIRMAN. You do know they got some?

Mr. HYATT. I think that is correct; they got some.

The CHAIRMAN. Will somebody representing California get me that information? I cannot seem to get it. Nobody claims to know. Will you undertake to get that for me?

Mr. SWING. Mr. Dowd will present that when he testifies.

The CHAIRMAN. Do you know how much revenue the Imperial Valley has been getting from the sale of electric power from the impounded waters of the Imperial district?

Mr. HYATT. I have none of those figures, Mr. Chairman.

The CHAIRMAN. You know they have been getting some.

Mr. HYATT. Certainly.

The CHAIRMAN. Did not all of that have to go into your decision on these Imperial bonds?

Mr. HYATT. That is right. We had to make a complete feasibility report. I testified that we passed on the water, soil, drainage and values and reached a favorable report. You are right in saying that the district's financial condition was examined.

The CHAIRMAN. It had to be examined, did it not, if you were doing your duty?

Mr. HYATT. That is right.

The CHAIRMAN. Among the factors would be how much money she was getting from Mexico and how much money she was getting from power?

Mr. HYATT. That would enter into it; yes. I have not those figures with me.

The CHAIRMAN. I wish you would get them, please. You are the State engineer, and I think the State engineer ought to know something about it. If you cannot get them, all right.

Mr. HYATT. I probably can get them.

The CHAIRMAN. I wish you would before you leave town.

Mr. HYATT. I am leaving town pretty promptly.

The CHAIRMAN. Go ahead, Senator Millikin.

Senator MILLIKIN. To refresh the memory of the witness, I will read from subsection (c), article III, of the compact:

If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River System, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b); and if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the upper

basin; and the lower basin, and whenever necessary the States of the upper division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d).

Does that refresh your memory sufficiently so that you can say that you saw that while you were considering the issuance of securities?

Mr. HYATT. Yes, sir.

Senator MILLIKIN. I will ask you whether you saw this provision of the compact. I read from subparagraph (f) of article III:

Further equitable apportionment of the beneficial uses of the waters of the Colorado River System unapportioned by paragraphs (a), (b), and (c)—
and I interrupt to remind the witness that I read from (c)—

may be made in the manner provided in paragraph (g) at any time after October 1, 1963, if and when either basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b).

Does that refresh your memory as to whether you saw that paragraph?

Mr. HYATT. We were cognizant of that; yes, sir.

Senator MILLIKIN. From the figures that you have tabulated, it is apparent that you intend to make good some of the water rights, on which securities have been issued, from surplus water.

Mr. HYATT. Well, Senator, at the time of the apportionment of 1931, which was quite a while ago, and the figures are not as fresh in my mind, of course, as they were then, we had available all the records of that time, we had representatives of the Secretary's office and of the Bureau of Reclamation present to advise, and the apportionment we made was carried by the Secretary into his regulations and into all the contracts, and he declared it fair and sensible.

Senator MILLIKIN. Accepting your interpretation of his words for discussion purposes, do you consider that something that the Secretary of the Interior has to say could modify a compact among the States?

Mr. HYATT. No, sir.

Senator MILLIKIN. In issuing your securities, you must have had that in mind; is that correct?

Mr. HYATT. Yes, sir; we had those documents in mind.

Senator McFARLAND. In the California Limitation Act, you were entitled to 4,440,000 acre-feet of III (a) water. You contracted for that. Then, you were also entitled to half the surplus and made other contracts for that. That is right, is it not?

Mr. HYATT. Well, we made an apportionment beyond the 4,440,000 acre-feet from any other water that belonged to California.

Senator McFARLAND. Under the California Limitation Act, you are entitled to half the surplus, are you not?

Mr. HYATT. Yes; I think that is correct.

Senator MILLIKIN. If this treaty limits or gives more water, I should say, to Mexico than Mexico is morally entitled to, why, then that cuts down that surplus, which would cut down your half just that much, would it not?

Mr. HYATT. Well, I do not know where it would come from. It would have to come from somewhere, of course.

Senator McFARLAND. You understand under the compact where the waters have to be supplied?

Mr. HYATT. Senator, I do not know that I——

Senator McFARLAND. First, from the surplus. You understand the compact?

Mr. HYATT. I do not know that I do understand it intimately. I am State engineer in Sacramento; I am not as intimately concerned with these things as the other men who have testified.

Senator McFARLAND. I want to compliment you for not wanting to get into legal questions because you are an engineer. I have no fault to find with that. I will not ask any more questions.

Senator DOWNEY. Mr. Hyatt, at the time this arrangement was worked out in California and with the Secretary of the Interior, as you have testified to, did you have in mind the first section of the Boulder Canyon Project Act, declaring in effect that all of the waters stored in Boulder Dam should be beneficially used exclusively within the United States?

Mr. HYATT. Certainly we did. We had all the facts at that time available in mind, and we reached an apportionment that everybody thought was fair and sensible; and the Bureau of Reclamation and the Secretary's office were represented there.

The CHAIRMAN. Is that all?

Senator DOWNEY. That is all.

The CHAIRMAN. Do you know how many acre-feet of water are used at Boulder Dam for the production of power?

Mr. HYATT. I do not; no, sir.

The CHAIRMAN. Do you know who would know that?

Mr. HYATT. Well, the Reclamation Bureau.

The CHAIRMAN. Nobody from California knows?

Mr. HYATT. I cannot say.

Senator DOWNEY. We have witnesses, Mr. Chairman, who will give you all those facts and figures in detail. I think we have several witnesses here. We do not intend to put them all on, but one of them will give you all of the details you want.

The CHAIRMAN. That is all, as far as I am concerned.

I understand from Senator Downey that the Governor of California will be here on Monday. So we will meet on Monday, at 10:30 a. m. in room 357 of the Senate Office Building.

Senator DOWNEY. I want to express my personal appreciation and I am sure, the appreciation of the Governor for your courtesy, Mr. Chairman.

The CHAIRMAN. The committee will adjourn until Monday morning.

(At 12:35 p. m. an adjournment was taken until Monday, February 5, 1945, at 10:30 a. m.)

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WATER TREATY WITH MEXICO

HEARINGS

BEFORE THE

COMMITTEE ON FOREIGN RELATIONS

UNITED STATES SENATE

SEVENTY-NINTH CONGRESS

FIRST SESSION

ON

**TREATY WITH MEXICO RELATING TO THE
UTILIZATION OF THE WATERS
OF CERTAIN RIVERS**

PART 3

FEBRUARY 5, 6, 7, 8, 9, AND 10, 1945

Printed for the use of the Committee on Foreign Relations



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UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1945

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WATER TREATY WITH MEXICO

MONDAY, FEBRUARY 5, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in 357 Senate Office Building, Senator Tom Connally (chairman), presiding.

Present: Senators Connally (chairman), George, Thomas of Utah, Johnson of California, Capper, La Follette, and Wiley.

Also present: Senators Downey, McFarland, Murdock, Millikin, and Hawkes.

The CHAIRMAN. The committee will come to order.

Senator Johnson, at the request of yourself and Senator Downey, we set apart this morning to hear Governor Warren, of California. We understand he is here, and so we would like you to present him to the committee, if you desire.

Senator JOHNSON of California. Thank you, sir.

I present to you people who are here, those that are members of this committee, and those who are free, the Governor of the State of California. We think a great deal of this man in California. Wherever he has talked he has been listened to respectfully and graciously, and here I bespeak for him the same courtesy and the same hearing.

We are confident that he needs no introduction in our territory, and we are willing that he should be presented, and on his merits alone he should talk. But we insist that he should be received with the same courtesy that the members of the State Department have been received, and with the courtesy that the members of this committee always will give to a governor of a State.

This is Governor Warren, of California, gentlemen.

The CHAIRMAN. Thank you, Senator Johnson. Governor Warren, we are very pleased to have you, and I assure you that the committee will extend every courtesy that is possible under the circumstances, and you may have a seat if you like. I want to assure Senator Johnson that any fears that he may have entertained that the Governor would not receive courteous attention and respectful attention are without foundation.

STATEMENT BY EARL WARREN, GOVERNOR OF CALIFORNIA

Governor WARREN. Senator, and gentlemen of the committee, I am sure that Senator Johnson did not have any fears on that subject, because you already have extended to me great courtesy in permitting me to be here today. I want to tell you what a pleasure it is to me

to be introduced to this committee by my dear old friend, Senator Johnson of California. Those of us who are younger in the public service out there, and who have looked to him as the Nestor of public servants in California, believe that he in his long experience as Governor of California and as Senator from California, has contributed more to the public service than any other man who has ever lived in our State.

Now, I wish first gentlemen to express my appreciation for your courtesy in allowing me to appear out of the regular order of witnesses, and next to say that I would not have presumed upon your time to that extent except for the fact that our State legislature was in session at the opening of these hearings and was in the act of passing emergency legislation requiring my consideration. Your courtesy made it possible for me to attend to those matters as well as to this.

You have listened patiently to our witnesses, some of whom have lived with the water problems of California and particularly with the water problems of the Colorado River for many years. They understand the substance and the effect of this treaty far better than I, and were it a matter of less importance to our State, I would not take time from them or from you.

However, the waters of the Colorado are so important to the future development of our State and the concern of our legislature and people is so great that it was believed by them desirable for me at any cost to present not only my views but theirs to this committee. As evidence of that concern I should like to submit to you two resolutions of our legislature, unanimously adopted by both houses, in June 1944 and January 1945. The first resolution refers to a compact made by reciprocal legislation between California and the United States, which compact as I am advised would be violated by the proposed treaty. The second resolution, after reaffirming the first, states in some detail reasons for our opposition to the treaty. I shall not take your time by reading them. I should like to offer them, together with the appropriate proceedings in our journal, for the information of the committee.

The CHAIRMAN. They will be printed in the record. Put them in the record, Mr. Reporter.

Governor WARREN. Thank you.

(The resolutions referred to are as follows:)

SENATE JOINT RESOLUTION NO. 4

CHAPTER 10

SENATE JOINT RESOLUTION NO. 4—Relating to the statutory compact between the United States and the State of California, evidenced by the Boulder Canyon Project Act and the California Water Limitation Act, and opposing ratification of the treaty between the United State of America and the United Mexican States, signed at Washington, D. C., February 3, 1944, and pending before the Senate of the United States, on the ground that such treaty would constitute a breach of the said compact. (Filed with Secretary of State June 9, 1944)

Whereas the United States of America and the State of California heretofore entered into a certain statutory compact, which compact was made in the manner following:

The Boulder Canyon Project Act (45 Stat. 1057) provided that if, in consideration of the passage of said act, California should within six months adopt an act limiting her use of Colorado River water to certain quantities, and if California and certain other States should ratify the Colorado River Compact, then said Project Act and all the provisions thereof should become effective, but otherwise should not become effective.

California did, within said time, expressly in consideration of the passage of said Project Act, adopt such a Limitation Act (Cal. Stats. 1929, 38), and did ratify the Interstate Compact, known as the Colorado River Compact (Cal. Stats. 1929, 37), all in precise conformity to the requirements of the Project Act. The President thereupon proclaimed the Project Act effective; and

Whereas California by the adoption of said Limitation Act did subject herself, her lands and people to a drastic reduction of the amount of water of the Colorado River otherwise available for use in California; and did by the adoption of said Ratifying Act subject herself, her lands and people to the burdens imposed by the Colorado River Compact; and

Whereas said Boulder Canyon Project Act contains the following provisions, a part of said statutory compact, which were intended to protect and safeguard the availability to California of the quantity of water to which California limited herself, to wit, provisions: (1) that the water of the Colorado River to be conserved by Boulder Dam should be used "exclusively within the United States"; (2) that no person should have the use of the water conserved by Boulder Dam, except by contract made by the Secretary of the Interior on behalf of the United States; and (3) that such contracts should be for permanent service; and

Whereas the Secretary of the Interior, on behalf of the United States, has entered into contracts authorized by said Project Act with public agencies of the State of California for the delivery to them, for domestic and irrigation uses, of large quantities of water of the Colorado River conserved by Boulder Dam, and for other rights and benefits authorized by the Project Act; and

Whereas said Limitation Act and said Ratifying Act were adopted by California and said contracts were entered into by California's public agencies in absolute reliance upon the full performance and observance by the United States of the above-mentioned protective provisions of the Project Act and this Legislature declares that it would not have adopted said Limitation Act nor said Ratifying Act, nor would said contracts have been executed by said public agencies, had not said Project Act contained said protective provisions; and

Whereas there is pending before the Senate of the United States a treaty, signed February 3, 1944, between the United States of America and the United Mexican States, whereby the United States would guarantee to Mexico delivery annually and in a certain prescribed manner of a quantity of the water of the Colorado River, which quantity cannot be delivered to Mexico in such manner without delivering to her water conserved by Boulder Dam; and

Whereas said treaty, if ratified, would impair the ability of the United States to render permanent service of water under said California contracts and otherwise perform said contracts; and

Whereas said treaty, if ratified, would create a right in water conserved by Boulder Dam, by means other than by contract with the Secretary of the Interior; and

Whereas said treaty, if ratified, would make it impossible for the Secretary of the Interior to fulfill the contracts which he has executed on behalf of the United States under the authority of the Project Act and would make it impossible for the United States to observe and perform its obligations under said Statutory Compact, to wit, the above-mentioned protective provisions of said Project Act; and

Whereas said treaty, if ratified, would cause the consideration for the adoption by California of said Statutory Compact to fail and said Statutory Compact would be thereby breached by the United States; now, therefore, be it

Resolved, by the Senate and Assembly of the State of California, jointly, That the Legislature of the State of California urgently represents to the President and the Senate of the United States that the ratification of the pending treaty would constitute a breach of the solemn Statutory Compact entered into between the United States of America and the State of California and evidenced by the above-mentioned statutes, to the great and irreparable damage of California; and be it further

Resolved, That said legislature urges that the pending treaty be not ratified; and further urges that in any treaty that may be entered into between the United States of America and the United Mexican States, the rights of the State of California under said Statutory Compact and the contractual rights of her public agencies be fully protected; and be it further

Resolved, That the Governor is hereby requested to transmit certified copies of this resolution to the President of the United States, the Secretary of State,

the Secretary of the Interior, the Vice President of the United States as President of the Senate, the chairman and each member of the Committee on Foreign Relations of the Senate, also to each of the Senators and Representatives from California in the Congress of the United States.

ASSEMBLY JOINT RESOLUTION NO. 9

INTRODUCED BY MESSRS. BUTTERS, ANDERSON, BOYD, COLLINS, SAM L. ERWIN, FLETCHER, GEDDES, KRAFT, LYON, MIDDOUGH, PRICE, STREAM, THROP, WATSON, AND MRS. NIEHOUSE

JANUARY 22, 1945.

Without reference to committee

ASSEMBLY JOINT RESOLUTION NO. 9—Memorializing the Senate of the United States not to advise nor consent to a proposed treaty with Mexico, signed February 3, 1944, relating to the waters of the Colorado and Tijuana Rivers and the Rio Grande

Whereas there was signed on February 3, 1944, a treaty between the United States of America and the United Mexican States, relating to the waters of the Colorado and Tijuana Rivers and the Rio Grande, and said proposed treaty was thereafter submitted to the United States Senate for its advice and consent with a protocol, signed Nov. 14, 1944, and the matter of said proposed treaty has been set for hearing before the Senate Foreign Relations Committee, commencing January 22, 1945; and

Whereas the Legislature of California did on June 8, 1944, by its joint resolution, being Chapter 10 of Resolutions of its Fourth Extra Session held in the year 1944, memorialize the Senate of the United States not to advise nor consent to said proposed treaty and therein placed its objection upon a single ground, to wit, that said proposed treaty would violate a solemn compact entered into by reciprocal legislation between the United States of America and the State of California; and

Whereas this legislature does hereby in all things reaffirm the joint resolution above mentioned, but desires to place of record more fully before the United States Senate its view in opposition to said proposed treaty; and

Whereas said proposed treaty is destructive of and dangerous to the welfare of the State of California and of the United States, and said protocol does not remove the defects of said treaty; now, therefore, be it

Resolved by the Assembly and Senate of the State of California, jointly, That the Senate of the United States be and it is hereby requested and urged not to advise nor consent to the proposed treaty, for the following reasons:

1. The treaty is cast in usual, vague, and uncertain terms and grants to a Federal Commission the power to interpret and settle finally the meaning of such terms, free from correction by the Congress or the courts. Such extreme delegation of power is un-American and contrary to our institutions of Government by laws, not men;

2. It would set up in the basins of three important international rivers, constituting a large fraction of the territory of the United States, a supergovernment consisting of one Mexican Commissioner and one American Commissioner, having hitherto unheard of breadth of power, amenable to no control but that of the Secretary of State and beyond the control of the Congress;

3. It would, so far as the Colorado River is concerned, create such dictatorial authority on a perpetual basis, when no authority is needed, or will be needed for many years to come, if ever. If and when any Federal Administration on the Colorado River is needed, it should be created by domestic legislation at the time when the conditions causing the need are known, not by a perpetual treaty;

4. It would invade the constitutional jurisdiction of the States and federalize waters and irrigation and power works which belong to the States and State Agencies;

5. It would give the two commissioners power to enter into, carry out, and enforce further agreements, with the approval of the Secretary of State and the Minister of Foreign Relations of Mexico, without the consent of Congress;

6. It would nullify the reservation attached by the United States Senate to the inter-American Arbitration Treaty of 1929, requiring the approval of the Senate of questions to be arbitrated, by enabling the Commission to settle all disputes and to formulate the "Special Agreements" defining such questions;

7. It would give to Mexico without any consideration in return for it, a guaranteed first right to more than twice her just share of Colorado River water and this largesse would cast a cloud on all water rights on the river vested in the people of the United States;

8. It would guarantee to Mexico a fixed amount from the surface flow of the river, without regard to the fluctuations of the available supply, which is wrong in principle, and, on the other hand, it would totally disregard the underground flow of the river, which Mexico would develop and use, although that is a part of the waters of the river and should be so treated;

9. It would donate to Mexico rights in water conservation works in the United States, which must be paid for by American water and power users and which are necessary to make available the water to be delivered to Mexico, and would therefore subsidize water users in Mexico at the expense, not of the United States, but of the citizens of particular communities in the United States;

10. It would permit Mexico to share in revenues from power development on the All-American Canal, which by Federal Law and contract belong to local public agencies in California;

11. It would require the building by Mexico within five years of a "Main Diversion Structure" or dam across the Colorado River, which structure is not now necessary and which would create a flood and drainage menace to communities in the United States;

12. It would violate the solemn promise of Congress that war veterans should have the preferred right to settle public lands below Boulder Dam and irrigate them with the waters conserved by that dam;

13. It would violate contracts for delivery of water and power from the Boulder Canyon Project, made by the United States with its own states and communities, entered into by the payers. If the treaty were ratified, the United States would thereby voluntarily disable itself from performing its own contracts with its own people, in order to make a free gift to a foreign country of one of the most precious natural resources of the State of California and of the entire southwest; and be it further

Resolved, That the Chief Clerk of the Assembly of California is directed to transmit a certified copy of this resolution to each member of the United States Senate and to each representative of California in the Congress.

[From Assembly Journal, January 22, 1945]

INTRODUCTION, FIRST READING, AND REFERENCE OF ASSEMBLY BILLS

The following resolution was offered:

Assembly Joint Resolution No. 9: By Messrs. Butters, Anderson Boyd, Collins, Sam L. Erwin, Fletcher, Geddes, Kraft, Lyon, Middough, Price, Stream, Thorp, Watson, and Mrs. Niehouse—Relative to memorializing the Senate of the United States not to advise nor consent to a proposed Treaty with Mexico, signed February 3, 1944, relating to the water of the Colorado and Tijuana Rivers and the Rio Grande.

REQUEST FOR UNANIMOUS CONSENT

Mr. Butters asked for, and was granted, unanimous consent to take up Assembly Joint Resolution No. 9 at this time, without reference to committee, print, or file, and that the same be considered engrossed.

CONSIDERATION OF ASSEMBLY JOINT RESOLUTION NO. 9

Assembly Joint Resolution No. 9.—Relative to memorializing the Senate of the United States not to advise nor consent to a proposed Treaty with Mexico, signed February 3, 1944, relating to the waters of the Colorado and Tijuana Rivers and the Rio Grande.

Resolution read.

The roll was called, and the resolution adopted by the following vote: Ayes—Anderson; Beck; Bennett; Berry; Boyd; Brady; Brown; Burke; Burkhalter; Burns; Butters; Call; Carey; Clarke; Collins, George D.; Collins, Sam L.; Crichton; Crowley; Davis; Dekker; Denny; Dicky; Dills, Clayton A.; Dills, Ralph C.; Doyle; Dunn; Emlay; Erwin; Evans; Field; Fletcher; Fourt;

Gaffney; Gannon; Geddes; Haggerty; Heisinger; Hollibaugh; Johnson; Kilpatrick; King; Knight; Kraft; Leonard; Lyons; Maloney; Massion; McColister; McMillan; Middough; Miller; Niehouse; O'Day; Pelletier; Price; Robertson; Rosenthal; Sawallisch; Sherwin; Stephenson; Stewart; Stream; Thomas; Thompson; Thorp; Thurman; Waters; Watson; Weber; Werdel; Wollenberg; and Mr. Speaker—72. Noes—None.

Resolution ordered printed, and transmitted to the Senate.

* * * * *

[From Senate Journal, January 22, 1945]

FIRST READING AND REFERENCE OF ASSEMBLY BILLS

The following bills were read the first time:

Assembly Joint Resolution No. 9.—Relative to memorializing the Senate of the United States not to advise nor consent to a proposed Treaty with Mexico, signed February 3, 1944, relating to the waters of the Colorado and Tijuana Rivers and the Rio Grande.

Referred to Committee on Rules.

* * * * *

[From Senate Journal, January 23, 1945]

Third reading of assembly bills (out of order).

Assembly Joint Resolution No. 9.—Relative to memorializing the Senate of the United States not to advise nor consent to a proposed Treaty with Mexico, signed February 3, 1944, relating to the waters of the Colorado and Tijuana Rivers and the Rio Grande.

Resolution read.

The roll was called, and the resolution adopted by the following vote:

Ayes—Senators Biggar, Breed, Brown, Burns, Collier, Crittenden, Cunningham, Desmond, Dillinger, Dilworth, Donnelly, Dorsey, Fletcher, Gordon, Hatfield, Hulse, Jespersen, Judah, Keating, Kuchel, Mayo, McBride, McCormack, Mixter, Parkman, Quinn, Rich, Salsman, Slater, Sutton, Swing, Tenney, Ward, and Weybret—34. Nos—None.

Resolution ordered transmitted to the Assembly.

Governor WARREN. I have not taken your time by reading the resolutions, but I would like to say to you in short that California is opposed to the ratification of this treaty for the following major reasons:

1. There will not be sufficient water in the Colorado River, regardless of maximum conservation, to serve all the needs in the United States, and in addition, to allot 1,500,000 feet to Mexico.

2. To furnish this amount of water to Mexico will require taking it from American States to whom it has been guaranteed by Congress, and from their water users, public and private, with whom the United States Government has entered into solemn and permanent contracts for its delivery.

3. The treaty sets up an administrative agency in perpetuity and beyond the regulation and control of Congress. The administrative features of the treaty and the ambiguities with which it is permeated are such as to bring conflict between the two nations and between the Colorado River Basin States, with respect to their inherent rights and Government contracts. Though all doubts of construction are resolved by the Senate in favor of the present interpretations of the treaty sponsors, the language of the treaty is such as to lead others to believe the contrary. It can only be a source of future trouble.

4. The Government has pledged the Boulder Canyon project to the opening of arid lands below Boulder Dam for the settlement of vet-

erans of the Army, Navy, and Marine Corps. The treaty is inconsistent with such a program.

In urging these objections I desire to say that we are not opposed to the negotiation of a treaty with our neighbor Republic of Mexico. We are opposed to this treaty. We believe that within the realm of equity and as a matter of international comity a treaty can be written that will do justice to both countries. I say this with full knowledge that there is not sufficient water in the Colorado River to satisfy all the legitimate needs of the American basin States, irrespective of the needs of Mexico. I say it, realizing that every acre in Mexico which is irrigated by Colorado River water, necessitates that a corresponding acre in this country be doomed forever to the sterility of desert. I say this because I know that the people of my own State, as well as those throughout the country, want nothing that does not belong to them. They are willing to be generous in their dealings with our neighbor. They are willing, notwithstanding our own needs, that it should have everything the Creator made available to it from the natural flow of the stream—and more. They are willing that it should have more than its average from the natural stream flow.

The core of the issue, gentlemen, which you must decide is, How much water should Mexico have? The answer is dependent upon the solution of these two questions: (1) How much is fair and just to Mexico, under the principle of equity? and (2) How much is fair and just to the United States, having prudent regard for the welfare of its own citizens and communities and for the obligations of the Government to them? The answers are to be found in these facts.

Before Boulder Dam was built the Colorado was one of the wildest and most erratic streams on earth. For about 2 months in the spring of each year it was a torrential flood carrying 200,000 or more acre-feet per day. These floods annually devastated the greater part of the Mexican delta and made it useless for irrigation. For the remaining 10 months, including most of the irrigation season, the river dropped to what is commonly called its natural flow of 20,000 acre-feet, or in the relation of 1:10 from the flood season. This natural flow was the only dependable resource of the river for irrigation, both in Mexico and the United States.

During this low-flow period the river in the delta area—and that is the area in Mexico—somewhat like that of the Mississippi at its mouth, split into many wandering channels and sloughs, but unlike the Mississippi these channels and sloughs of the Colorado shifted their courses from year to year, so that there could be no stable farming, there could be no program of irrigation, there could be no stable agricultural economy there. Thus Nature, not economic conditions, sharply limited Mexico's obtaining benefit from the river, first, to the land which was not subject to annual inundation, and, second, to the water she could get from the natural flow.

Mexico had, in the flat delta, no storage sites at which she could conserve any of the floodwaters. So the United States, when it built Boulder Dam, did not deprive Mexico of anything. Far from depriving her of anything, the United States has greatly benefited her by protecting her lands from flood in the flood season and by regulating the delivery of water in the summer season, so that she can produce maximum crops from it.

The United States did make great volumes of floodwaters usable by combining the use of its own storage site, its own money, its own engineering genius, and its own energy. In so doing the United States through act of Congress firmly declared its intention to dispose of the conserved floodwaters for the benefit of its own people and served notice to that effect on Mexico.

In the words of Senator Key Pittman on the floor of the Senate during the final debate on the Boulder Canyon Project Act, we find the following, referring to the position of Mexico in the event that she should claim some right to the conserved waters from Boulder Dam—I quote:

* * * You never had any right under the comity of nations to the stored waters of our country. Your rights were solely limited to the natural flow and the use to which you put the natural flow. Then, in addition to that, the Congress of the United States passed a public act in which they stated to you and the rest of the world that all of this impounded water was to be used exclusively in the United States. You and your citizens had notice of it. You cannot complain that you are now injured because you took no notice of it.

Now, I do not contend, gentlemen, that it would be fair or consistent with comity to destroy the community which had grown up in Mexico before Boulder Dam was built, although I am advised that under international law she has no legal right to continued flow of that river. That would not be a moral or friendly position. But I do most earnestly submit to you that Mexico has no equity in the waters conserved by Boulder Dam within our borders. She has contributed nothing to the conservation of those waters.

There is therefore neither equity nor moral right in any claim that the development of the delta lands which has taken place since the building of Boulder Dam or any development which she may make in the future should be considered in the formulation of any treaty. During the last two war years Mexico has rushed into production some of these lands, which were flooded before they were protected by Boulder Dam. However, she has done so with full notice that this country has conserved the floodwaters by the use of our own national resource—the dam site which nature has given to this country and not to Mexico, and that this country intends to use the product of its expenditure and effort permanently for its own benefit. During the time required to develop American projects Mexico may very properly use whatever waters of Boulder Dam are not used in the United States. She should do so and should make all possible monetary gain from them. But by using them, under notice that we made them usable, in effect created them, and intend to retain them, she can never turn her lack of equity into an equity.

So we say there is justification for allotting Mexico that which she was using before construction of Boulder Dam. There is none for considering, now or in the future, her increase of use, which has been made possible by the protection of her lands from floods and the conservation of water by Boulder Dam.

The quantity of water used by Mexico before Boulder Dam is not materially disputed. Her maximum use in any one year was 750,000 acre-feet. Her average use was 600,000 acre-feet. Necessarily, to amount to that average, in many years she used less than 600,000 acre-feet, even dropping to as low as 200,000 acre-feet in some years.

All of the basin States, all seven of them, in June 1942 agreed upon a formula of 800,000 acre-feet for Mexico every year that 10,000,000 acre-feet are released from Boulder Dam.

This formula would allow Mexico on the average as much water as the maximum she ever used before Boulder Dam. It also has the specific merit that in years or cycles of years in which the water crop of the river is high or low, Mexican uses would go up or down just as American uses most necessarily do.

It must be remembered at all times, Senators, that these stored waters behind Boulder Dam are entirely the product of American foresight, American ingenuity, and American financing. They are the result of the greatest cooperative venture of its kind in history. Arizona and Nevada furnished the dam site; Wyoming, Colorado, Utah, and New Mexico supplied most of the waters; and California underwrote the project. The Federal Government constructed the dam and very properly provided in the Boulder Canyon Project Act, among other things, (1) that the stored water was for beneficial use "exclusively within the United States," (2) that contracts made by the Secretary of the Interior for the use of the stored water should be for permanent service; and (3) that no person should have the right to such stored water other than by contract with the Secretary of the Interior.

When it comes to giving away water thus stored in the Boulder Dam or in reservoirs yet to be built in other basin States, our generosity must be controlled by the commitments we have already made, as well as by a sense of responsibility for our stewardship to unborn generations of American citizens.

Generosity is always a relative thing. If we have much, we can give much. And if this were gold, we would say to this committee: "Give to our neighbor whatever you believe we can afford to give, and we will gladly pay our share." But this is not mere gold. It is the means of life itself. In the West, without it, life cannot exist.

In these Colorado River Basin States, when all the water of that river has been put to use for irrigation and domestic purposes, every newcomer there and every new-born babe will become a threat to the safety of those already living there. Now, how far in the future that day is, we do not know, but those who study population trends predict that it will come within the lives of persons now in being. In any other part of the world, this western country would be an empire. The only thing that can prevent it from achieving its great destiny here is lack of water. It must be difficult for many Americans who live in States covered by snow in winter and warm rains throughout the summer, where lakes abound and rivers run leisurely to the sea, to appreciate how Phoenix, and Las Vegas, and Salt Lake, and Imperial Valley have become the garden spots that they are, and why those garden spots are separated by hundreds of miles of desert. It must be almost unbelievable to them to hear that from San Francisco to the Mexican border, a distance of 600 miles, there is not a single river that runs 12 months of the year into the Pacific Ocean.

Senators, we say frankly to you that so far as the water allotments under this treaty are concerned we are guided largely by self-interest. But we insist that it is an enlightened self-interest. It is enlightened because our needs, our rights, and our claims coincide with the

positively indispensable conservation of our limited water supply and with the orderly development of our country.

The people of southern California have been pioneers in water conservation. They have not waited for the Government to take care of them. They have spent their own money and mortgaged everything they own to accomplish that purpose. Over 40 years ago when Los Angeles was still a small city it brought a municipal water supply from mountains 250 miles north of the city. As its population grew and used up this supply it turned to the last "water hole" in the area, the Colorado River, 250 miles to the east.

Through its activity and that of other water users in the area the Federal Government became interested in the Boulder Dam project. It authorized the Colorado River compact. Six of the States then signed the compact. Now all seven have ratified it. In 1928 Congress through the Boulder Canyon Project Act authorized the construction of the dam and the use of its stored waters "exclusively within the United States" upon condition, among other things, (1) that California limit its use of Colorado water as provided in that act, and (2) that contracts guaranteeing repayment of the cost of the project in 50 years to the Government first be executed by water and power users of the area.

These conditions were promptly met. By act of the legislature, California entered into a solemn compact with the Government limiting her use of Colorado River water for the protection of the other basin States. I have asked another speaker to discuss that compact in detail with you. Thereafter, the metropolitan water district of southern California, the Imperial irrigation district, the city of Los Angeles, and other California water and power users, both public and private, became guarantors for the project by entering into contracts with the Secretary of the Interior for the delivery of water and power under conditions calling for repayment to the Government of the entire cost of the project. And, gentlemen, so far as I am informed, that is the first time in history that Congress has ever required that, on any of its reclamation projects. The President of the United States then formally declared the Boulder Canyon Project Act to be effective and simultaneously the compact became binding on the basin States.

Later on the Secretary of the Interior made contracts with the State of Nevada for delivery of water and power and Nevada has contributed substantial revenues to the project. Still later, the Secretary contracted to deliver water to the State of Arizona.

These States and their people have lived up to those contracts. The question is, will the Government live up to them? Now, ordinarily, such a question would never be asked, and even now, Senators, I hesitate to ask it, because it has a rasping sound. But the proposed treaty compels that it be both asked and squarely answered; first, because there is not sufficient stored water to satisfy both the contracts and the treaty allotment of 1,500,000 firm acre-feet to Mexico; second, because the administrative features of the treaty dislocate the operations of the agencies which have contracted with the Secretary of the Interior to purchase water and power.

This treaty is so far as we are informed a departure from the usual sort of treaty designed to settle international rights or other border conditions. It has been hailed by the State Department as—

* * * the most important of its kind in the history of the world, both in the range and scope of its provisions and in its social and economic significance. It is more than a mere division of water between two countries; it provides the administrative machinery and the principles for international cooperation in the development of these water resources. As such it may well be taken as a model for future treaties governing international streams.

That is from the Department of State Bulletin; the article was written by Dr. Charles A. Timm, one of the authors, I am informed, of this treaty.

Now, this same spokesman, Dr. Timm, in another treatise that he wrote on this subject, has definitely given to us his intent. In fact, he says, referring to these proceedings and this treaty:

* * * all existing irrigation, drainage, flood-control and power projects in these river systems should be nationalized and all such future projects should be undertaken by the respective national governments. Privately owned utilities and irrigation companies should be excluded altogether; and present ownership, wherever it exists, by local governments, should be replaced by national ownership.

That is taken from his treatise on the International Boundary Commission, on page 241.

Now, in pursuance of these objectives, the treaty creates in perpetuity and beyond recall of Congress a two-man commission, one from Mexico and one from the United States, for the—

* * * regulation and exercise of the rights and obligations which the two Governments assume thereunder * * * (art. 2).

It then delegates to the single Commissioner of the United States, also in perpetuity, power to acquire title to, control, and, where not constructed, to construct and operate all water, flood control, and hydroelectric power projects necessary for the discharge of treaty stipulations.

The treaty makes no provision for regulation of the fiscal affairs of the Commissioner by Congress, but on the contrary provides that all of his powers may be exercised with only the approval of the Secretary of State. The powers to be thus exercised include the making of international agreements having the effect of treaties, but without referral to the Senate for approval. They contemplate our commitment to investments, both in this country and in Mexico for the benefit of both countries, or either, without previous sanction therefor by Congress. They authorize the Commissioner to take at his discretion facilities owned and operated by the public agencies under contracts with the Secretary of the Interior and to enter into competition therewith. They launch the Boundary Commission, under the guidance of the State Department, as an independent public works agency with authority to grow in size and power according to its own inclinations. There is no control over power rates, operations, fields of service, or use of funds. Those things are controlled in perpetuity by the agreements of the Mexican and American Commissioners, and approved by the Secretary of State. It leaves open to any sort of international agreement, without the approval of the Senate, the waters of the Tijuana River, referred to in this treaty, now used as a municipal water supply for the city of San Diego.

And incidentally, gentlemen, the city of San Diego for years has been endeavoring to have its rights determined so far as this little river are concerned. Why? Because it is a growing community.

It has doubled in population, and they have a metropolitan area of over 400,000 people, there now, where just prior to the war they had about 200,000. They have never been able to get recognition from the Federal Government on that score, and now we find this treaty incorporating the Tijuana River into it with just the vague generalization that in the future some time—maybe now, maybe next generation, maybe a century from now, after the city of San Diego has planned for its future—the commissioners can arrange for the division and the disposal of this water, with only the agreement and approval of the Secretary of State; not as a treaty; not with the approval of the Senate, but simply by the approval of the Secretary of State.

The power to do all of these things is given, not for a term of years; not while the arrangement is mutually agreeable to both countries, but so long as either country is satisfied with its bargain, which to all intents and purposes makes it in perpetuity.

These powers alone make the treaty undesirable from any viewpoint. They are not consistent with the spirit of our institutions.

The sponsors of the treaty I am told deny that the administrative provisions should be thus construed, but the attorney general of my State, and counsel for the public agencies which have contracted for Colorado water, advise me that it is a fair interpretation to place upon the document. Its language seems also to me to warrant that construction. And I am also fortified in this conclusion by the words of the eminent Dean Roscoe Pound of Harvard University before the house of delegates of the American Bar Association in speaking to the resolution of that body condemning some of the administrative features of this act. Dean Pound said:

* * * The general subject, the adjustment of water rights as between the United States and Mexico, with reference to three international streams is, of course, quite outside the jurisdiction of our committee. We wouldn't presume to interfere on a subject of that sort; but this treaty is, so far as I can find, and I have examined a great many treaties as to boundaries of waters, absolutely unique and without precedent in the way in which it subjects the rights of Americans with respect to some of the most important forms of what we can fairly call property, in some of our States, to the absolute, unlimited, unchecked power of a single commissioner.

In all the extremes of administrative absolutism with which I have come in contact in the 7 years since I was appointed to look into this matter, on your committee on administrative law, I haven't encountered anything which goes so far in the direction of subjecting the rights of individuals to an absolute, unlimited, unchecked authority. It seems to me to develop administrative absolutism to the *n*th power.

At the conclusion of his statement the resolution was adopted by the convention of the American Bar Association.

I believe the best that can be said of the treaty in this respect, regardless of the contentions of the proponents of the treaty and those who feel as Dean Pound feels, is that it is ambiguous and uncertain to a degree that would cause disorder and litigation in our domestic affairs. It would be impossible to know how far the courts would go in sustaining in the Commissioner what Dean Pound referred to as "absolutism raised to the *n*th power." In our relationship with Mexico it would give rise to serious differences of opinion, with resulting ill will, if Congress should refuse to appropriate to carry out the obligations to which the Boundary Commission had committed us. The rights of Mexico under the treaty would then be subject to ar-

bitration under the Inter-American Arbitration Treaty of January 6, 1929. Since this proposed treaty would be perpetual, the differences to be arbitrated might become interminable, and eventually accomplish the opposite of what was intended in stabilizing good relations. It was not drawn, gentlemen, with the searching scrutiny which is so essential to permanency. It has not been subjected to public debate country-wide, although its departures from time-honored practices in treaty making make it sufficiently important to merit such consideration. After it had already been submitted to this committee, it was suddenly discovered that it was in conflict with the authority of other functional agencies of the Federal Government. Hence the protocol which is now attached to it. Had this glaring incongruity passed unchallenged until the treaty was ratified by the Senate, we would have suffered along with it permanently.

Again, an ambiguity in article 15, damaging to us, was discovered by other Federal officers, which is the subject of the exchange of letters between the two Commissioners which appears as exhibit 5 attached to the Commissioner's statement which is in the record. And if there was reason for having a protocol so far as the matters are concerned that are mentioned in that protocol, certainly the same reason exists for attaching another protocol to cover the ambiguity in article 15 thereof.

The treaty has thus been twice officially admitted as being a badly drawn instrument by our own Government, even before it goes into effect. Now, the same kind of concern that caused the submission of the protocol and the exchange of correspondence between the Commissioners should bring about the rewriting of this treaty.

As I said to you at the outset, we are not opposed to a water treaty with Mexico. We are opposed to a bad treaty. We believe this to be a bad treaty. We believe that, with the information that has been developed at these hearings, a better treaty can be drawn. If it is in order, I should like to propose some changes which I believe would be fair to our neighbor Mexico and lend certainty to the provisions of the treaty as far as our domestic affairs are concerned:

First, the severance of the treaty into two, so that treaties fitting the diverse conditions on the Rio Grande and the Colorado River can be aptly drafted.

In that connection, gentlemen, those streams are as different as night is from day, so far as our relationship with Mexico is concerned. In the case of the Rio Grande, we have hundreds and hundreds of miles of international boundary. Here practically the entire river is in the United States, and there is no common boundary except for a distance of a very few miles—5 miles or so on the Arizona border.

As to the Tijuana River, the treaty is worse than none. It is only a delegation to the Commission of the power to make a treaty in the future, and that without the scrutiny of this Senate.

Second, a sliding-scale allotment of water to Mexico, on the basis of a percentage of the outflow from Boulder Dam, such as was agreed upon by all seven interested States in June 1942, at El Paso.

Third, the removal from the jurisdiction of the Commission and American section of administrative powers over the rivers in question, leaving such matter to regular departments of government, and subject to congressional control.

Fourth, the recognition of the sanctity of the obligation of the compact between California and the United States and the seven States interested in the waters of the Colorado River.

Fifth, a prohibition against the Commission or the American section thereof taking title to public or private property at the discretion of the Commission and in place thereof a requirement that local authorized public agencies, whether State or Federal, be used as instrumentalities for carrying out local functions necessary or convenient treaty requirements.

Sixth, the elimination of Mexican participation in power revenues from the All-American Canal project, which revenues have already been granted to American public agencies by act of Congress.

There is but one other matter to which I would call your attention in connection with this treaty. It concerns the pledge that was made by Congress to the veterans of our country in the Boulder Canyon Project Act.

As an act of honorable recognition to the veterans and to all who were interested in having the nation show its appreciation for their services, the act provided that all public lands in the area below Boulder Dam should be withdrawn from entry until after the dam was constructed and that, when they were reopened for entry preference in filing should be given to veterans. This pledge should be kept. It cannot be kept if the stored waters are to be given away to another country.

The Southwestern States have over 800,000 boys in the service. Thousands of them will want to own a farm. It is in the national interest to give as many as possible the opportunity to do so. This is the part of the country where it can best be done. My own State has just bonded itself to facilitate the purchase and improvement of homes and farms by its veterans. With the water involved in this discussion the basin States can establish veterans in thousands of happy farm homes, and they will serve our country as the farmers of the Pacific Southwest are now serving our cause in the present world conflict. Without it the land must remain forever barren. This, Senators, is our case in outline. Everything I have said to you can be proved to your satisfaction, I am sure, by the experts who are here to assist you.

There is in our case not a shred of hostility to Mexico. The people of California and the other States of the Pacific Southwest have, for generations, lived, dealt, and worked side by side with their Mexican neighbors, not only with those across the border but with the hundreds of thousands who live in our midst. The city of Los Angeles, in which I was born, has more people of Mexican blood than any other outside the city of Mexico. We are proud of the romantic traditions of the Spanish-Mexican beginnings which, from Santa Fe to San Diego, have colored the American culture and civilization of the Southwest. I believe firmly that the United States should in all things be just and generous to Mexico. No other standard of conduct on the part of our Nation will comport with our dignity and honor.

On the other hand, a nation owes its first duty to its own people. Our Nation will not gain respect among other nations, nor real and lasting friendship from Mexico, by undue liberality, made possible only by hurting an important segment of our own people. As v

succinctly said in the report of the American section of the 1930 treaty commission, on page 65:

It does not appear that the United States is required, even in proof of its friendship and good wishes for Mexico, to limit its own growth and abridge the comfort of its own citizens that a neighboring nation may be correspondingly benefited.

* * * The United States section regrets that it cannot see its way to recommend a larger amount to Mexico but believes that it is going as far as it properly can when it saves the existing users of water in Mexico from loss and feels that if it recommended an additional amount it would be recommending an injury to its own country.

In that connection, gentlemen, you will remember that the 1930 treaty Commission recommended 750,000 acre-feet, just half of what is recommended in this treaty.

That is our belief. It is the essence of our case. It is the belief of the vast majority of the water users of the Colorado River Basin. It was the publicly expressed belief of the official representatives of all the basin States at El Paso in June 1942.

It is based upon justice and fair play to our own States as well as to our neighboring Republic. It is, in our humble but patriotic belief, in furtherance of the national welfare.

We trust, gentlemen, that it will be so regarded by your honorable committee and by the august tribunal which you represent, the Senate of the United States.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Governor Warren.

Are there any questions, Senator George?

Senator GEORGE. No questions.

The CHAIRMAN. Senator Johnson?

Senator JOHNSON of California. No questions.

The CHAIRMAN. Does any other Senator have any questions?

Thank you very much, Governor.

Governor WARREN. Thank you, gentlemen, for your extreme courtesy.

The CHAIRMAN. Senator Downey, Senator Johnson, and Mr. Swing, have you made any headway in the matter of reducing the number of witnesses who are to appear from California?

Senator DOWNEY. I understand that the number of witnesses has been substantially reduced from the number originally given; but Mr. Swing is here and can speak more definitely about it.

The CHAIRMAN. Who is the next witness?

Mr. SWING. Mr. Dowd.

STATEMENT OF M. J. DOWD, CONSULTING ENGINEER, IMPERIAL IRRIGATION DISTRICT

The CHAIRMAN. For the record, please state your name and position. Then proceed with your statement.

Mr. DOWD. My name is M. J. Dowd. I am consulting engineer for the Imperial irrigation district. I have been with the district since 1922, and from 1925 until 1942 I was the chief engineer and general superintendent, and also the manager of the Subsidiary Corporation in Mexico. Since the latter date, I have been consulting engineer for the district. I have tried to shorten the talk that I had planned to

give, in conformity with the request of the chairman, and I will do my best to bring it down into the shortest possible time.

I do not know whether or not you can all see these maps. The development of the lower river commenced in 1901, at which time diversion was made from the California side of the Colorado River about a mile north of the California-Mexico boundary. If you can see the photograph, you will note the location of the California boundary in the center of the Colorado River. Then it goes south for some 20 miles, following the river channel, then to the east, making the Arizona-Mexico boundary. The diversion, as I say, was about a mile inside the United States, in California.

The water was then carried through one of the old overflow channels of the river and down to a point right south of Imperial Valley, from where it was taken north into the United States again.

That development was not started by interests owning land in California and Mexico, as was testified by one of the witnesses; it was started by a group of men purely as a water project to develop a canal system and to furnish water for sale to lands in Imperial Valley, Calif.

The original surveys followed a route entirely within the United States, but because of limited financing it could not be carried through; therefore, there was adopted the easier route through one of the old overflow channels in Mexico.

As I say, the canal was built, and the first water reached the Imperial Valley in 1901. The developers had not even thought that, because they were in a foreign country they would have to do something with the foreign country. This was, of course, an untamed wilderness, a large part of it subject to overflow from the river during floods, and apparently the developers had not thought of their violation of foreign law. As a result, they had to organize a private Mexican corporation, under Mexican law, and secure a concession from the Mexican Government in 1904, by which this private corporation was permitted to divert in the United States, or divert in Mexico and carry water through Mexico to the United States for the irrigation of lands in Imperial County. In order that you may have a little better appreciation of the concession, I should like to read just one or two of the provisions.

The CHAIRMAN. This is the Mexican concession from which you are reading?

Mr. Dowd. Yes, sir; this is the Mexican concession. I think it will help you to visualize what comes later.

The CHAIRMAN. All right.

Mr. Dowd. This company, the Mexican company—

is authorized to carry through the canal which it has built in Mexican territory—

You will notice that they refer to the canal as already having been built—

and through other canals that it may build, if convenient, water to an amount of 284 cubic meters per second—

Which is 10,000 second-feet in our standards—

from the waters taken from the Colorado River in territory of the United States by the California Development Co. and which waters this company has ceded to the Sociedad de Riego y Terrenos de la Baja California, S. A.

That was the original company, which was reorganized in 1912, with the name of *Compania de Terrenos y Aguas de la Baja California, S. A.*

It is also authorized to carry to the lands of the United States the water with the exception of that mentioned in the following article.

Here is what it said:

From the water mentioned in the foregoing article, enough shall be used to irrigate the lands susceptible of irrigation in Lower California with the water carried through the canal or canals, without in any case the amount of water used exceeding one-half of the volume of water passing through said canals.

Get the significance of that, gentlemen. It did not say one-half of the annual quantity; it said one-half of the water passing through the canals. In many instances that has been interpreted to mean delivery of half of the water at the time being carried through the canal for that particular day through Mexico. It was enforced on a number of occasions, as I shall point out later.

So, regardless of the amount that the Mexican company might have taken through to the United States in a year, the criterion was the amount flowing at any particular time, which makes an entirely different picture of it, as I shall show you later.

Next, article 4 says:

The company is also authorized to connect in Mexican territory the afore-said canal or canals with the Colorado River, so that it may be able, without injuring the rights of a third party or the navigation, as long as the river is destined for navigation, to take from said river as much as 284 cubic meters of water per second.

That is the 10,000 second-feet.

Those waters shall be used in the irrigation of lands in Mexico and the United States in the proportion established in articles 1 and 2.

That is the 50-50 division of the daily flow. I call your attention to the fact that in 1904 the Mexican Government still recognized the navigability of the Colorado River, as provided in the treaty of 1853, in which Mexico accepted the sole responsibility to maintain the navigability of the Colorado River from the California-Mexico boundary to the Gulf of California. There was no obligation whatsoever on the part of the United States to maintain the navigability within the United States or within Mexico. That, we feel, is a very important matter in considering what Mexico might have done under certain circumstances.

Going on over to another article, to show you how Mexico was so insistent that this be an absolutely Mexican corporation, they provided:

At no time nor by any reason can the company, grantee, sell or mortgage the concessions made in the present contract to any government or foreign state, nor admit it in partnership, it being null and of no value nor effect whatever, any stipulations made to that end.

The Mexican Government wanted to be sure that this was an entirely Mexican corporation, with no foreign government or foreign state to have any powers or any rights in it. Later, when it came to the discussions in 1929 and 1930, they tried to hold differently, but the concession was against them.

Notice this article:

The company, grantee, and its company assigns, shall always be considered as Mexican corporations, though all or any of its stockholders should be foreigners, and the corporation shall be subject to the jurisdiction of the courts of the Republic in all the affairs emanating and to be decided within the territory of the Republic.

They—

Meaning the owners—

would never be able to allege in all the affairs in relation to the present contract the rights of foreigners under any circumstances, and they shall only have the rights and the way to establish the same as the laws of the Republic grant them to the Mexicans, and consequently in any of said affairs the diplomatic foreign agents shall not have any interference.

We maintain that under that concession it was purely a private Mexican corporation, without the United States, the State of California, or any agency in the United States being committed under it except to the extent that, during the time waters were brought through the canal system, up to one-half of the daily flow passing through the canal would have to be delivered on demand to the Mexican lands.

The original company which did the development work in the United States was the California Development Co.

The CHAIRMAN. May I ask you a question right there, just for information? I do not want to interrupt you. Did the taking of water on the American side require any permit from anybody—the Secretary of the Interior, State authorities, or anybody else?

Mr. DOWD. It required a filing, or posting of a notice of filing, and numerous filings were made by the California Development Co. between 1890 and 1900, filing on 10,000 second-feet to be diverted from the Colorado River in the United States, and they are on record in the State capitol of California.

In the Imperial Valley proper, the California Development Co. did very little work. The canal and lateral system there was built up over a period of years by mutual water companies. There were finally 13 of them, and they purchased water wholesale from the California Development Co. The California Development Co. started in without any realization of what they were facing on the Colorado River. They knew nothing of the floods on the river, nothing of the tremendous silt problem they were facing, and nothing of the terrific droughts that were to come.

The CHAIRMAN. Who did not know?

Mr. DOWD. The California Development Co., the engineers, and financiers who financed it.

The CHAIRMAN. They did not know anything about that?

Mr. DOWD. No, sir.

The CHAIRMAN. Yet they undertook to invest their money in this project?

Mr. DOWD. That is right. It took them some 15 or 20 years to get financed, even to the extent they had to have it for this original development.

Like so many other pioneers, they were going into a country that was like an unchartered wilderness. They were going into a section of the desert down there that was one of the most feared stretches of desert anywhere in the United States.

As a result, they soon got into difficulties. They could not keep the head end of the canal in the United States open. At the present time, of course, there is a structure right at the river, called Rockwood Gate. But originally there was an open cut from the river about a quarter of a mile to what we call Hanlon Head Gate, and that was the control structure. They could not keep that free of silt, and the head of this canal silted up, and so they dropped down into Mexico about 4 miles. As I say, they knew nothing about conditions; otherwise they would not have done what they did do. They dropped down there and made an open cut. This was in the wintertime. They made a cut from the Colorado to the Alamo canal, figuring that prior to the spring floods they would have ample time to put in a structure.

We who have been on the river have come to know that it is almost human. It always likes to do the opposite of what you expect it is going to do. Before they knew it, there were several flash floods out of Senator McFarland's Gila River that widened the opening and turned the flow of the river into the Alamo canal.

These men then tried to put a structure in the opening. I will not go through all the history, but during the next 2 years almost the entire flow of the Colorado passed down through the Alamo canal in Mexican territory, down through the Imperial Valley, and into the Salton Sea, creating a vast inland body of water. It was only after a terrific fight that the closure was made and the river shoved back on its course to the Gulf.

Of course, the company went broke, and the Mexican corporation went into the hands of receivers; so did the California corporation.

In 1911, because of the difficulties of poor water service and lack of facilities, the people in Imperial Valley organized the Imperial irrigation district. It was organized under a State act called the Irrigation District Act. They organized this district to take over the properties of the receiverships, but there was considerable litigation at the time over the question of the flooding of Salton Sea damaging properties and works and a good many other things and it was not until 1916 that the district actually took over the receiverships on both sides of the line. Of course, in Mexico, the district being a State agency could not, as such, own this Mexican corporation, so the way it has been handled—and also it has been known by the Mexican Government—all the stock of the Mexican corporation is held in the names of the individual board members of the Imperial irrigation district.

Then, in 1922, the mutual water companies were all absorbed by the Imperial irrigation district. It was the same people, of course, who made up the mutuals and who made up the district, and they simply bought out—the district bought out—all the individual water company stock. So since 1922 the district has handled the entire works on the river, in Mexico—through its subsidiary company—and in the United States.

The area of the district has been until recently about 612,000 acres. But under the terms of the All-American Canal contract, the district has taken in considerable additional land, and it now includes some 850,000 acres, making it the largest irrigation district in the United States and one of the largest in the world.

I mentioned to you the silt problem. It was not very long before the district ran into a very serious diversion problem. In 1918

the Rockwood gate was constructed right next to the river, so as to get away from the silting up of the intake channel to Hanlon Headling. The Colorado River, you may not realize, is one of the dirtiest rivers in the world. As has often been said, the percentage of silt content of the Colorado River at Yuma prior to the construction of Boulder Dam was about 17 times that of the Mississippi River. That gives you some idea. The annual flow of silt into the Gulf, according to the best estimates, was around 140,000 acre-feet a year. In other words, that was sufficient to cover 140,000 acres a foot deep. It was a serious problem. Floods were bad. Yet we could have handled the quantity of water so far as the floods were concerned, but we could not handle the silt; we could not digest it. In connection with this diversion problem, we found before long that it would be necessary to put some kind of obstruction across the river during low flow in order to get water into the Alamo canal. Large suction dredges were purchased to try to keep the head end of the canal free of heavy sand. They were partially successful. But the minute we talked about putting in a weir across the river—in fact, they did put in rock for several years—the people of the Yuma Valley, which extends for some 20 miles below the California boundary in Arizona, became concerned. They were fearful that floods coming down the river would, because of this obstruction across there, overflow into Yuma Valley. That actually happened a time or two, not due to the weir, but just due to the tremendous size of the floods. Also, they feared that the building of a weir and the raising of the river would increase the seepage problem in their valley. They were up against a very serious situation there.

The result was that in 1916 the Yuma water users went to court and obtained an injunction against our district putting any obstruction whatever in the river. That, of course, would have been quite serious to us had it been enforced. Out of that, however, came an agreement which, until 1932, was made annually with the Yuma Water Users' Association. Under that agreement it was provided that the Imperial district should at the earliest opportunity remove its point of diversion from Andrade—Rockwood gate—to make it unnecessary to divert there and go upstream to another diversion point.

In the meantime, however, we had to put up each year a half-million dollar indemnity bond, and that bond was written for the benefit of the Yuma Water Users' Association and the United States. I want you to remember that. They required us to do that. We had to put up the half-million-dollar bond for the benefit of the Yuma Water Users and the United States, since the Yuma project is a Bureau of Reclamation project.

We also agreed that if there were any delays, for every day we delayed in removing our diversion point we could be assessed \$500 a day, and so forth. We also had to agree to pay about two-thirds of the cost of Laguna Dam. Laguna Dam is located on the Colorado River some 12 or 15 miles above Yuma, and it was a diversion point for the Yuma project. It is right about at this point [indicating]. The Yuma project diverted water on the California side, the canal came down to a point due north of the city of Yuma, irrigating the Yuma Indian Reservation on the way, and then came under the river and into Yuma Valley proper. They required us to pay two-thirds of the cost of that dam, or \$1,600,000.

The CHAIRMAN. Did you say "under the river"? Is there a tunnel?

Mr. DOWD. A siphon. They bring the canal down to the bank of the river, and at that point, right at Yuma, the river goes between two hills, and it is quite narrow. The banks are a type of sandstone that will stand up, so they went straight down then under the river and back up on the Arizona side to irrigate lands in the Yuma Valley of Arizona.

As I said, we had to agree to pay \$1,600,000 toward the cost of the dam.

In view of the conditions I am mentioning to you, in view of this trouble we had with silt, and desiring to get to a point where we could handle the silt more easily, also with the idea of getting away from this Mexican burden, as all the financing of the Mexican works had to be done by the farmers of the Imperial Valley through the Mexican corporation, a proposition was put up for the construction of the All-American Canal, and it was along about 1916 or 1917 that the first efforts were made in that direction.

It is interesting to note, gentlemen, that the All-American Canal was investigated and proposed for construction ahead of any thought of the Boulder Dam. But in 1919, when a commission of engineers investigated and reported favorably on the All-American Canal, it was then decided that since the All-American Canal would bring in additional land, and since the low flow of the river was already appropriated and used, there should be consideration of providing storage. There followed, then, what we call the Kinkaid Act of 1919, from which came the Fall-Davis report of 1921, entitled "Problems of the Imperial Valley and Vicinity." There for the first time was made the recommendation for the construction of a high dam at or near Boulder Canyon in addition to the construction of the All-American Canal.

There followed a series of bills before the Congress, but it was not until, as you know, 1928 that the Boulder Canyon Project Act was passed authorizing construction of the dam and canal.

Under that act, as you have been told, no work could be done on either the dam or the canal—and I shall confine my remarks just to the canal—no work could be done on the All-American Canal until the Secretary had secured signed contracts which, in his judgment, would guarantee repayment to the United States of every dollar of cost of the canal.

The contract was written between the Secretary of the Interior, acting for the United States, and the Imperial irrigation district. Later similar contracts were written with the Coachella Valley County Water District, which lies to the north of Salton Sea and is part of the drainage area of the Salton Sea and which had long been in dire need of a supplemental water supply for the ground water wells; and then later another contract with the city of San Diego. These contracts were pretty much the same as to form. They provided that the United States would construct a diversion dam on the Colorado River and a canal from that dam to the Imperial and Coachella Valleys. They provided that the upper part of the canal should have a capacity of 15,000 second-feet from the diversion dam to what we call Siphon Drop; 13,000 second-feet from Siphon Drop to Pilot Knob, and 10,000 second-feet from Pilot Knob westerly to the west side of

the sand dunes, and from there on the required capacities in the various branches.

You will note those differences in capacities. The 15,000 second-foot capacity was made up of 11,500 second-feet for Imperial irrigation district, 1,500 second-feet for Coachella County Valley Water District, and 2,000 second-feet for the Yuma project.

The witness the other day—Mr. Riter, I believe—said that it was “more convenient” to bring the water for the Yuma project through the All-American Canal directly from the dam down to Siphon Drop. It was not a case of being convenient; it was a case where the United States said, “If you are going to build that dam you may interfere with the diversion for the Yuma project at Laguna Dam,” which is about 4 miles below Imperial Dam. They not only required us to complete our payments on Laguna Dam—although we are not using it as a diversion point—but they also said, “You must provide, free of cost to the Yuma project, 2,000 second-feet of capacity from Imperial Dam down to Siphon Drop,” where the 2,000 second-feet would be dropped back into the Yuma Canal before it went across the Colorado River. We were agreeable to doing that. Siphon Drop is some 12 or 14 miles below Imperial Dam.

The CHAIRMAN. You mean, the All-American Canal Dam?

Mr. Dowd. Yes, sir; about 20 miles above Yuma.

From Siphon Drop to Pilot Knob the capacity was to be 13,000 second-feet, of which 3,000 second-feet was surplus capacity, which I will describe a little later; and then turning westerly from the river to Imperial Valley the capacity of the canal was fixed at 10,000 second-feet. I should add 155 second-feet to all these figures, because the city of San Diego had that much; so it should have been 10,155 second-feet, of which Imperial district had 8,500 second-feet, Coachella County Water District 1,500 second-feet, and the city of San Diego 155 second-feet.

The contract provided that the total cost of the canal should not exceed \$38,500,000, unless increased by reason of damages which might occur, and each agency should pay for its share of the canal on the basis of capacity. So that, for instance, in the first stretch of the canal from Imperial Dam to Siphon Drop, 2,000 second-feet did not share, because that was free to Yuma; we had to take off the 2,000 making the basis to share 13,000 second-feet; and of that Imperial has to pay on the basis of 11,500 to 13,155; Coachella, 1,500 to 13,155; and, of course, San Diego, 155 to 13,155.

The Boulder Dam Project Act also provided that the power possibilities on the canal should belong to the agencies paying for the canal. That was carried into all these All-American Canal contracts, so that under our contracts with the United States—and, by the way, these contracts had to be taken to court for validation and approval—under those contracts and the Boulder Canyon Project Act we feel that we are entitled to the use of the power possibilities, whatever they may be, on that canal.

The act also provided, however, that any net proceeds from the power development on the canal should be paid back to the Government to apply to the cost of the canal. However, the main security for the canal is the lands to be served, and they are the first security; they are the real security that the Government looks to. So, in effect, the

farmers in the Imperial and Coachella Valleys mortgaged their lands for \$38,500,000. That is simply for the main canal itself, and does not include necessary lateral and distribution systems to the lands in either valley.

So far as the people in Imperial Valley were concerned, that was added to the amount they already had incurred to build the extensive levee and canal systems in Mexico.

The CHAIRMAN. Do you take into consideration the added lands that have been brought in since then?

Mr. Dowd. The added lands, if and when they are developed, will also become liable for their proportionate share of the cost of the All-American Canal.

The district, through the Mexican corporation, has invested in the canal system and the levee system in Mexico about \$8,000,000 and in the head works at Andrade about \$2,000,000. The investment was made in Mexico at a time when the peso was 2 for 1. In other words, there has been very little additional investment in Mexico since 1931, when Mexico went off the gold standard. Now the peso is, and for some years has been, about 5 to 1. So that if and when we ever do receive any repayment of our investment in Mexico we will get, of course, much less than half of what we put in, because with the ratio of 5 to 1 we will lose considerably compared with the ratio of 2 to 1.

It was always a very serious question as to how the farmers could pay for the All-American Canal. They already had a bonded debt of \$16,000,000; and how could they add an estimated cost of \$25,000,000? But it was the possibility of utilizing the power developed on the canal that was looked to. I doubt very much whether the people would ever have accepted the All-American Canal contract had it not been for these power possibilities.

The idea was that here you had [indicating] Imperial and Coachella Valleys, the area to be served by the All-American Canal, needing power, and in the future needing a lot more power. If it would be possible to develop the power possibilities on the All-American Canal and supply it to these people who were obligated for the canal—and I may add that the cities and towns in this area are a part of the Imperial irrigation district, just the same as the farms are—if they could use those power possibilities to serve this need for power, they could kill two birds with one stone, and with a combination of that kind they could, through payments for water and power, assume this additional cost on top of that already put on the land to build the canals and levees in Mexico and the canal system in the United States.

I do not believe there is much question about the right of the district to the power possibilities. The plan of the extra 3,000 second-feet capacity from Imperial Dam to Pilot Knob was worked out with the heads of the Bureau of Reclamation. At that time Dr. Meade was Commissioner. It was felt that for many years—and that has been corroborated here—there would be a very large amount of surplus water going down the Colorado River, and by putting the extra 3,000 second-feet capacity in the canal down at Pilot Knob it would be possible then to develop power at that point by dropping the surplus water back to the river. At that time it was not known whether or not any arrangements would be worked out whereby such

water as Mexico might receive would go through that source. It was considered a possibility. We looked at it upon a business basis.

I want to make two points in that connection. The first is that if our district had not obligated itself to repay the cost of the additional 3,000 second-feet of capacity, it would not be available there today. The Government could not have put it in there, because the Government had to secure firm contracts for the repayment of every dollar to be put into the canal before it could start construction; and so it was our district guaranteeing the repayment that made possible the 3,000 second-feet of capacity going in there. Now, part of it, under this treaty, is to be used for the benefit of Mexico.

Secondly, in addition to our guaranteeing the cost, if the capacity had not gone in there then it would not be practicable to put that capacity in there at this time. If you were familiar with the desilting works at Imperial Dam and with the large structures for carrying washes across the canal, and so forth, you would know that it would not have been practical, had the canal been built without the 3,000 second-feet of capacity, to have put it in there now.

So, we raise those two points for you to consider, and I will mention them later on when I discuss the matter of the power at Pilot Knob.

The CHAIRMAN. How much water do you figure from the power development? You said so much water would go back to Mexico.

Mr. Dowd. No, sir; I said it would go back to the river.

The CHAIRMAN. Where it would go from?

Mr. Dowd. From the All-American Canal.

The CHAIRMAN. At Pilot Knob?

Mr. Dowd. Yes, sir; it would go back to the river.

The CHAIRMAN. How much would that amount to? Do you know?

Mr. Dowd. No. That will vary, of course, from time to time. If the Senator would not mind, I would like to discuss that a little later on.

The CHAIRMAN. All right. I withdraw the question. Go ahead. You brought up the point; I did not bring it up.

Mr. Dowd. These plans for power development at Pilot Knob, were prepared with the Bureau of Reclamation at the time there was laid out the Pilot Knob wasteway, which wastes from the All-American Canal back to the Alamo and through Rockwood into the river. At the time that was laid out the proposed power plant was laid out. The size of the power plant was investigated; and what we propose to do now is simply carrying out the plans proposed by the Bureau of Reclamation in its studies when the canal was built.

Furthermore, in the All-American Canal contract we had agreed that in the event the Yuma project needed power for project purposes which was not available to it from its own plant at Siphon Drop—they have a small plant there—then the district would have to furnish from a power plant at Pilot Knob up to 4,000 horsepower for these project purposes; showing you that there is no question that it was contemplated that the district would build and operate the power plant at Pilot Knob.

So much for that at this time.

I come now to a discussion of the development in Mexico as to the water and the acreage that has been discussed so much here, and I would like to try to clear it up for the committee, if possible.

The first land was irrigated in Mexico about 1905. By 1914 there were some 150,000 acres being irrigated. By 1920 the area had increased to 190,000 acres, and from 1920 on through until just very recently the area in cultivation fluctuated from around 70,000 acres in 1932 up to a maximum of 217,000 acres in 1925.

I would like to point out to you that all of the data on Mexico in regard to acreage is not very reliable.

Senator WILEY. What is the maximum of acre-feet?

Mr. Dowd. I will come to that in just a minute.

There is no way of getting a true or accurate picture of the acreage being irrigated in Mexico. For years our water tenders on our canals in Mexico have attempted to get the acreage in cultivation. We think the figures are inflated. We have reason to believe they are, and I will tell you why. In the event of a water shortage, under Mexican law they have no such thing as a priority; whoever wants water when the water is short, gets it in the proportion that his acreage in crop bears to the total acreage in crop. So it was natural, and we found it in a number of cases, that in giving his acreage a farmer would be inclined to enlarge it somewhat, hoping to get a little larger share of the water when it was short. There were a number of shortages in Mexico.

We believe that there has not been over 200,000 acres irrigated in Mexico, up until just the very last few years, when the acreage has increased.

The use of water by 1920 had reached about 600,000 acre-feet; 1920-30 was a fairly representative period of what we consider maximum use.

The CHAIRMAN. How much did they use in 1925?

Mr. Dowd. In 1925 they used 729,000 acre-feet.

Just to show you, if you do not mind, I will go through those figures to show how the deliveries in acre-feet varied from year to year, starting with 1920, and then year by year: 1920, 572,000; 385,000; 540,000; 606,000; 614,000; 729,000 in 1925; 680,000; 574,000; 712,000; 616,000—and that is 1929; 1930, 485,000; 1931, 380,000; 1932, 218,000; 1933, 402,000; 1934, 426,000—of course, that was the last year prior to the storage of water at Boulder Dam; 1935, 746,000; 1936, 871,000; 1937, 878,000; 1938, 794,000; 1939, 775,000; 1940, 856,000; 1941, 769,000; 1942, 734,000; 1943—that is when there was a jump—978,000 acre-feet. For 1944 I do not have the exact figure, but it is approximately the same as for 1943.

That gives you a pretty good idea.

As has been mentioned, for the period between 1921 and 1930, a 10-year period, use of water was approximately 600,000 acre-feet per year.

Senator McFARLAND. I wonder if I might ask where these records were obtained.

Mr. Dowd. They are our own district records taken from the records of the subsidiary company in Mexico; the official records of the district, in other words, and they represent the deliveries from our canal system in Mexico, which I will describe.

This [indicating on the map] is the main canal, the Alamo, crossing the boundary line adjacent to the Colorado River, extending for some 55 miles to what we call Sharps Heading; then this canal Solfatara-Cerro Prieto [indicating] coming along the east and west sides of the

valley, the west side main going to the extreme west, and numerous small connecting canals, back into the United States, some 130 miles all together in Mexico.

Senator MILLIKIN. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MILLIKIN. How much water do you lose by seepage and evaporation in delivering those net amounts?

Mr. Dowd. I will give you that now. The losses from seepage and evaporation in this canal system in Mexico were remarkably low and would average somewhere around 5 to 7 percent a year; when you were given figures of 200,000 to 250,000 acre-feet of losses to be added to the 1929 offer of 750,000 acre-feet, they are in error. It is only about 30 miles from the diversion point to what we call Cudahy Check, and at that point 30 miles from the head about one-half of the deliveries are made in Mexico. So that when you take the amounts we give you as delivered from the canals in Mexico, half of them are made from a 30-mile canal, so you do not have the same situation as if all the water had to be carried through the whole 130 miles. But our seepage and evaporation losses show from 5 to $7\frac{1}{2}$ or 8 percent normally.

Since the All-American Canal has been built and all the water for Imperial Valley has been taken through the All-American Canal, and that occurred in March 1942, the Mexican system has been going through a transition period.

At this time, of course, with the larger canal and the smaller amount of water, there is some additional loss; but for the year 1942 the loss showed only $14\frac{1}{2}$ percent. Even these big canals, with just the Mexican water for 1943, showed loss of only 10.6 percent. So it is my opinion that with proper maintenance and relining and fixing the canals up, the losses based on our delivery points back to the river will not be over 5 to $7\frac{1}{2}$ percent.

The CHAIRMAN. Since the building of the All-American Canal do you still use the old Alamo Canal?

Mr. Dowd. Only for the delivery of water in Mexico.

The CHAIRMAN. That is what I mean. The Imperial Valley still operates that canal?

Mr. Dowd. The Imperial irrigation district, through its Mexican subsidiary, still operates the canal system in Mexico.

The CHAIRMAN. And sells the water to Mexico?

Mr. Dowd. Yes.

The CHAIRMAN. How much revenue does the district get from that, annually? Do you know?

Mr. Dowd. Yes, sir. I can go backward on that for you.

The CHAIRMAN. I would rather you would go forward; but any way you want to treat it. I do not care.

Mr. Dowd. Prior to 1930 it ran between \$500,000 and \$600,000 a year.

Senator McFARLAND. What were you charging per acre-foot?

Mr. Dowd. To convert it into American money, it ran somewhere about 75 or 80 cents an acre-foot prior to 1931.

In 1931, when the depression hit, the Mexican Government made an arbitrary 30 percent cut in our rates in Mexico which they made no attempt to justify except to say that they were in a very serious economic situation and were doing it to help their country.

Then, also in 1931, in the fall, Mexico went off the gold standard. Theretofore we were getting payment on the basis, you might say, of 2 to 1, and it jumped to 5 to 1.

The decrease in revenue from water sales in Mexico resulted in these figures:

In 1930 it was \$410,000; 1931, \$200,000; 1932, \$86,000; 1933, \$146,000; 1934, \$150,000; 1935, \$256,000; 1936, \$303,000; 1937, \$308,000; 1938, \$230,000; 1939, \$192,000; 1940, \$212,000; 1941, \$197,000; 1942, \$203,000.

For 1943 I do not have the exact figures, but the Mexican Government did make a slight increase in our rates because they were found to be too low to accomplish the purpose I will describe in a few minutes; the revenue should be somewhere around \$250,000. But I do not have those exact figures.

Senator HAWKES. Mr. Chairman, may I ask a question?

The CHAIRMAN. Yes.

Senator HAWKES. Anywhere along the line have you said anything about the use of 1,750,000 acre-feet of water in Mexico in the last year or two, or in any of the years? It has been told around in different places by different people that Mexico has increased its use very substantially, and that during the last 2 years has used a very extensive amount of water. That was part of the reason that has been given to me why this treaty ought to be adopted. The most you have gotten up to is nine hundred-and-some-odd thousand acre-feet, as I recall it, in giving all of those years. If you can throw a little light on that I will appreciate it.

Mr. Dowd. Yes, sir. The figures I read to you of deliveries were deliveries from the Alamo Canal system in Mexico.

On this map which is being put up now I have tried to show the situation in the matter of acreage. From our own records, from an inspection of the area, and from some airplane views I have tried to show this picture.

The part colored in blue represents the area that is served by the Alamo Canal system. The part colored in red is that served by a very large number of individual pumps that were thrown into the river following the construction of Boulder Dam and the relieving of this area from the flood hazard.

The deliveries to the area in blue, for 1943, for example, were 978,000 acre-feet. The diversion at Andrade from the Colorado River to the Alamo Canal system was 1,094,000 acre-feet.

We know that that is the amount of water used on the area in blue: How they got a figure of 1,800,000, which would be mean 750,000 acre-feet more, that is 750,000 acre-feet used on the area shown in red, I cannot imagine. We have had considerable difficulty in getting the actual records of acreage, even in the Alamo system, for the last several years, but we know that at the lower end of the Yuma project they got something in the neighborhood of 40,000 or 50,000 acre-feet of usable water a year.

The CHAIRMAN. The red shown on the map indicates the land of Mexicans irrigated from the river by pumps?

Mr. Dowd. Yes, sir; irrigated other than by the Alamo Canal system.

The CHAIRMAN. So that in addition to the 900,000 acre-feet furnished through the Alamo Canal there would have to be added whatever acreage is marked in red?

Mr. Dowd. Yes, sir. Our diversions were 1,094,000—call it 1,100,000 acre-feet, and of the 1,800,000 acre-feet 700,000 acre-feet would have had to be used on this area shown in red.

The CHAIRMAN. And that you do not know about?

Mr. Dowd. No, sir; and we cannot believe it. We do not believe it is a fact. There are no actual records of use from these pumps. They have had to use various estimates to arrive at acreage and then applied a certain duty of water. Just how it has been arrived at we do not know.

The CHAIRMAN. Would it interrupt you if we were to take a recess at this time? You are not through, and it will take you some time, I understand?

Mr. Dowd. Yes, sir.

The CHAIRMAN. If it is agreeable to the committee, we will recess to the other committee room at 2:30.

Senator HAWKES. I would like to ask one question before you take the recess, Mr. Chairman. I would like to ask the witness if the water that is taken out of the river by pump, as shown by the red area, is continued to be used, if this treaty went through and that water was still in the river, could it still be taken out by pumps?

Mr. Dowd. Oh, yes.

Senator HAWKES. Is there any reason to assume that there will not be some water in the river, unless we put it all to use here in the United States, as planned by the original Boulder Canyon Project Act?

Mr. Dowd. No, sir.

Senator HAWKES. Let me ask you just one more question. There is no prior right in that water; they just use the water there and get it by pumping. Is not that the idea?

Mr. Dowd. That is correct. This is in an area [indicating] where, prior to the construction of Boulder Dam, it would have been impossible to provide any irrigation whatsoever, because it is all a part of what we call the flood plain of the Colorado River, the area in which was digested this tremendous volume of silt that spread out every year, and it was only by building Boulder Dam that they were able to do any cultivation in that area.

Senator MILLIKIN. Has Mexico increased her use of pumps in that stream?

Mr. Dowd. Yes; to some extent.

Senator MILLIKIN. So she could expand her use in that way if the water were there?

Mr. Dowd. If the water were there, and if you had no small floods on the Colorado or out of the Gila. There are a good many if's about it—we doubt that she could even continue this area [indicating] for a very considerable time.

Senator HAWKES. But the point I wanted to make was that if the water is there, regardless of all those things, she could expand the use of water by means of pumping it out of the river. There is nothing to keep her from doing that?

Mr. Dowd. To a certain extent, that is true. I will discuss that a little later in more detail.

(Whereupon, at 12:35 p. m., a recess was taken until 2:30 p. m. of the same day, to meet in the committee room in the Capitol.)

AFTERNOON SESSION

The committee reconvened at 2:30 p. m., upon the expiration of the recess.

The CHAIRMAN. Let the committee come to order. All right, Mr. Dowd. Go ahead.

STATEMENT OF M. J. DOWD—Resumed

Mr. Dowd. When we recessed this morning, Mr. Chairman, I had given for the record the figures on deliveries from the company canals in Mexico, the acreages according to reports that we had received, and the revenue from water sales.

In connection with the latter—that is, the revenue from water sales—it should be pointed out that these were water-sales revenue received by the Mexican company, and although some have felt that the district has made a profit out of these water sales, I should like to point out to the committee that it seems to me that the best answer that we did not is that each year the Mexican company which, of course, keeps Mexican books in accordance with Mexican law—each year our books have been subject to audit by the equivalent of our Internal Revenue Bureau—that is, by the Internal Revenue Department of Mexico, and we have never paid an income tax in Mexico. In other words, the Mexican company has never showed a profit; and, as I will explain later, in discussing certain phases of the Mexican investments, the Mexican Government has admittedly, and by letter, told us and has actually fixed our water rates in Mexico at an amount sufficient to cover only operation and maintenance, without one cent of allowance for depreciation, interest on investment, or amortization of our investment in Mexico.

Coming back for a moment to the deliveries from the canal system, for a period of 4 or 5 years one of the many attempts to divert water from the uncontrolled channel in Mexico did get a little water out of the river, and to bring that into play I should mention that from 1928 to 1933 there were small amounts of from 30,000 to 50,000 acre-feet that were diverted at this point [indicating Pescadero Dam] in Mexico.

In regard to crops, I presume you know that this area in Mexico has from the time development first started been a cotton-growing country, and the records indicate that from year to year the cotton acreage is from 70 percent to 90 percent of the total area under irrigation in Mexico. You realize that this area is far removed from any other populated area of Mexico. Its markets are extremely limited, and, so far as we can see, will be limited into the distant future, unless the United States reduces the tariff on vegetables or on cotton and cottonseed products, so that this area can compete with American farmers in the growing of such crops.

Senator MILLIKIN. Mr. Chairman, may I ask a question, please?

The CHAIRMAN. Yes, Senator Millikin.

Senator MILLIKIN. I assume it follows from your testimony that about 30 percent of the irrigated lands in Texas are being used for vegetables?

Mr. Dowd. In Texas?

Senator MILLIKIN. In Mexico.

Mr. Dowd. No. From 70 to 90 percent of the area is in cotton; the balance of the area is in alfalfa, corn, some wheat, and a few crops of that nature.

Senator MILLIKIN. Would you mind saying what the crop divisions are in your own district?

Mr. Dowd. In our own district, as to acreage, about one-third is alfalfa at this time; the remainder is divided up. The next largest acreage is flax, which, of course, is grown for the seed—for the oil in the seed—the straw being processed in North Carolina to make cigarette paper. Then, we grow vegetables of various kinds and some grapefruit, although a very small acreage of grapefruit. Then, some crops—various field crops—such as corn and barley. The corn we grow is what we call Milo maize. It is not sweet corn. We do grow a little sweet corn in the wintertime for eastern consumption—roasting ears—but that is a very small acreage.

Senator MILLIKIN. Let me ask you one more question. How many acres do you say are under irrigation in Mexico that get this water from the Alamo Canal, say as of last year?

The CHAIRMAN. A little louder, Senator Millikin; Senator Johnson has difficulty in hearing you.

Senator MILLIKIN. I asked the question: How many acres in Mexico are being irrigated from the Alamo Canal, and to make it specific I asked as of last year.

Mr. Dowd. We do not have the figure on acreage for last year.

Up until about 2 or 3 years ago we were able to use our own Zanjeros, men who deliver water from our main canals, to secure crop data from the water users. But several years ago the National Irrigation Commission of Mexico—corresponding to our Bureau of Reclamation—came into the picture in a big way, and since that time the Commission has been handling that phase of it. We do not have accurate figures that I can give you. All I can give you is the water that has been delivered. In fact, we feel that as far as the Alamo Canal system is concerned, that is the criterion: it is the water that has been delivered, because the amount, as far as the Alamo Canal system is concerned—the water we have delivered—is a known fact and is, I would say, fairly accurate. But when you get into the question of the area being irrigated, you bring into account a lot of these inaccuracies, and so forth, that we feel do not give you a very good picture. Particularly do we believe that during the past several years, in the matter of the acreage being irrigated in the lower delta—this new land that has been put into cultivation since Boulder Dam—the figures are just picked out of the air, so to say, both as to the matter of actual acres being grown and as to the amount of water being diverted.

There are a large number of pumps pumping from sloughs and from the river, of varying sizes and various types of installations. There are no ways to measure what those pumps take. Just how the figure of 1,833,000 acre-feet was determined, I do not know; but we do believe it is very much subject to question.

Senator MILLIKIN. How many acres are you irrigating in your own district?

Mr. Dowd. We are irrigating somewhere around 430,000 to 450,000 acres.

Senator MILLIKIN. How much water are you consumptively using for that?

Mr. Dowd. We are using about 2,500,000 acre-feet.

Senator MILLIKIN. How much are you spilling into the Salton Sea?

Mr. Dowd. The spill to Salton Sea from all sources, such as seepage, drainage, and regulation, I presume, is in the neighborhood of 1,000,000 acre-feet per year. I will come to that a little later.

Senator MILLIKIN. Two and one-half million acre-feet, then, is consumptively used?

Mr. Dowd. Yes. That is our diversion from the river. It is the consumptive use as far as the Colorado River system is concerned.

Senator MILLIKIN. But you divert 2,500,000 acre-feet?

Mr. Dowd. Yes.

Senator MILLIKIN. From the Colorado River.

Mr. Dowd. Yes.

Senator MILLIKIN. And of that you spill a million acre-feet into the Salton Sea?

Mr. Dowd. Well, yes; I would say that is the amount from all sources.

Senator MILLIKIN. Thank you very much.

Mr. Dowd. But my point—just so that I will not be misunderstood, I will touch on that—is that we do not maintain that in the future we will have a diversion duty of that amount. We do believe that under past conditions, and even under present conditions, going through our present period of transition, it is justified. We do not maintain that it would be carried on in the future.

The duty water in Mexico—by “duty” we mean the amount of water used per acre—varies between quite wide limits. It has been as low as 2.8 feet and as high as $4\frac{1}{2}$ acre-feet per acre. In fact, the variance in the use, we feel, indicates a question as to the accuracy of data on acreage being irrigated. We know that the water figures are accurate. As an average the figures show that the diversions from our canal system in Mexico to the Mexican lands are somewhere around $3\frac{1}{2}$ acre-feet per acre per year. So to get the head gate duty for that, you would add somewhere around 10 percent, or, in other words, a figure which reduced by 10 percent, would equal $3\frac{1}{2}$, which would bring it up somewhere near 4 acre-feet per acre for a diversion duty.

In other words, if there were 200,000 acres which could be irrigated in Mexico [indicating] prior to Boulder Dam, then that would mean about 800,000 acre-feet of diversion or diversion water.

We come now to the matter of whether or not Mexico could have expanded her use under natural flow conditions. I would just briefly like to describe the conditions in Mexico and something about what we call the live delta. I believe you can all see the map, although you will not be able to read all the writing on it.

The international boundary divides the area at about the middle of the map. The Colorado River is shown in the vicinity of Yuma, coming down through Mexico, the Gulf being at the bottom of the map. The colored area that I have shown was in the state of nature the delta of the Colorado River. That extended from the Gulf in a northwesterly direction for something like 160 miles, and from Yuma to what you might term the westerly side it was something in the neighborhood of 50 miles. In the state of nature it was an area of perhaps some

2,000,000 or more acres over which the river could flow and deposit its silt. We know from records that the river would at times flow into the Salton sink, as we call it, the lowest part of which is the Salton Sea, 241 feet below sea level, the level of the river at Yuma being something like 120 or 125 feet above sea level.

The boundary line between the United States and Mexico—in Imperial Valley at Calexico, for example—is at sea level. At the other end, the north end, the town of Indio is about 4 feet below sea level. So it was a vast inland basin, and this tremendous quantity of silt that I mentioned, 140,000 acre-feet in an average year, could spread over the entire area.

We know also that in the past this silt has built up the Imperial Valley area to depths of over a thousand feet. There have been wells put down in the Imperial Valley looking for domestic water, which could never be found. Those wells have gone down a thousand feet, and we have found the same type of Colorado River silt a thousand feet below the surface of the earth that we found on top.

When man came into the picture, he started to change the course of nature; and if there is one thing the Colorado River does not like, it is to have anyone trying to change her habits. The original diversion, as I said, was made in 1901 at the point in the United States approximately a mile north of the California-Mexico boundary. No levee works were built originally. It was not realized how necessary they were, although it was known that the river during large floods did spill some water down into the Salton Sea, although at that time it was practically dry and had been for some years.

Following the break of 1905 to 1907, and after the closure was made, it was necessary to start construction of levees in Mexico, and they were carried down some 10 or 12 miles below the boundary line in Mexico, with funds advanced by the American interests who were doing the work.

For many years prior to the starting of the development, the course of the river had been along the eastern side of the delta, on the Sonora side, and the river all the way from here [indicating], a short distance below Yuma, to the Gulf had during flood seasons overflowed its banks. This river is unique in that respect. It does not like to run below ground surface; it likes to run in a broad, shallow channel, and during flood seasons overflowing, it overflows its banks to not very great depths, and as it overflows, it deposits silt and spreads it along its banks. The river generally runs on a ridge for that reason. Instead of being in the low part of the area, it is on the high part, wherever the river channel may be located. So it could, without being interfered with by man, overflow at any point. But, of course, after a while it had gradually built its banks up to the point such that these overflow channels would widen and divert the whole river in another direction; that is the way in which the river spread back and forth over the delta.

After building the first stretch of 10 or 12 miles on the west side, a levee was built on the Yuma side, which cut off the Yuma Valley from overflow.

Prior to 1909, there had been evidence that the river was about to make another major change in its course, and it did, in 1909, at a point almost opposite the Arizona-Mexico boundary, to the west of it a short distance, and the river diverted to the west into what we call the

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Volcano Lake region. On the westerly side of the Volcano Lake region is the dividing line between the slope to the Salton Sea and the slope to the gulf. It immediately became necessary to build a levee [indicating the Volcano Lake Levee] to prevent the river from coming right down the valley and into the Salton Sea, as it did in 1905 to 1907.

When the district took over, that is, when we bought out the two receiverships, we paid \$3,500,000; and with that, of course, we got the levee system and canal system as they then existed in Mexico from the Mexican receiver, and the few canals and properties in the United States from the United States receiver, and also the headworks at Andrade. We then had to proceed to build additional levees. It may be said that the first series of levees restricted the delta; in other words, they removed from the deposition of silt, the area colored in brown, which included some 150,000 to 175,000 acres in Mexico, the entire Salton sink in the United States—the Imperial Valley, Coachella Valley, the Yuma Valley in Arizona, and so forth. We took away from that river a very large area that it had had to spread over.

Then, to keep the river from coming north and coming around into Imperial Valley that way [indicating], we had to build what we call the Saiz levee, connecting the main levee along the river with the Volcano Lake levee, and that eliminated from overflow the area colored in green, amounting to a few thousand acres.

Very soon, however, the deposition of silt had built up the Volcano Lake area to where the Volcano Lake levee was 12 to 14 feet high. In fact, we had a little break there in 1916, when we had that record flood from the Gila River. It was necessary then, since the river would not divert itself to another course, for us to do it. In 1922 we built the Pescadero Dam and threw the river down into the Pescadero Basin.

I hope you can see this picture. This is looking up the Colorado River. In the immediate foreground is the old river channel going to Volcano Lake. We dammed the river, made a cut for 4 or 5 miles, and threw the river into what we call Pescadero Basin. When we did that, of course, we eliminated the pink area. But had it not been for Boulder Dam, and had it not been for the low-flow years we had following 1927 and 1928, it is questionable whether we could have held Pescadero levee very long. The river would then have come back into the Volcano Lake area, and we would have had to continue our raising of levees. In other words, instead of the river having several million acres over which to spread its silt, we concentrated the area down to less than 500,000 acres. So that area had to digest this tremendous volume of silt that came down the river every year.

The area colored in blue is what we call the live delta. Without Boulder Dam, had we been able for a period of years to have held the river within that area, we think we would have been very fortunate.

North and west of the Volcano Lake and Saiz levees [indicating] is land which we feel Mexico might have had as a fairly permanent area for development; in that area, we maintain, there is not over about 200,000 acres that Mexico could have continuously irrigated.

Senator MILLIKIN. Would you mind delineating again where the boundary is?

Mr. Dowd. The boundary between Mexico and the United States is at this point [indicating].

Senator MILLIKIN. So that these works you have been talking about were put in Mexico?

Mr. Dowd. All the flood-protection works except a small amount at our diversion point at Andrade were in Mexico, built with funds advanced by the farmers of the Imperial Valley, except for one, I will say, donation by the American Government, and that I will explain in this way:

The river broke in Volcano Lake levee in 1909. Some engineers got the idea that they could build a levee along the west side of the Colorado River and close the break—the 1909 break—and extend the levee south for some 10 or 15 miles along the west side of the old channel and force the river back into the Gulf along the Sonora Mesa. In other words, they thought they could strait-jacket the river. But that meant, of course, that the entire water and silt burden of the river had to come south into Mexico 30 miles or more before it could spread out. They did not know that river. The result was that the first flood smashed that levee in many places, and the work was a complete loss. It was the first example we had of why you cannot strait-jacket the Colorado River. You have got to give it plenty of area in which to play, because of the tremendous volume of silt it carries.

They did not use up the million dollars that the United States Government appropriated for that work, and the balance was used in strengthening Volcano Lake levee a year or two after that.

The Mexican Government has never recognized any responsibility for, nor has it contributed to, prior to construction of the All-American Canal, the cost of any part of our levee system in Mexico. The Mexican Government contributed a few thousand pesos for a local levee in Mexico along about 1929, but that was not considered a part of the general protective levee system for either Mexico or the United States.

So I give you that picture applying to the point we make; why we do not believe that Mexico could, from an engineering standpoint, based on our knowledge of the river, and on the facts we have learned down there in trying to control this flood flow—I do not believe that she could be able to show a permanent development, and I mean by “permanent” that over the next 50 years she could have put and kept in cultivation more than the area lying north of the Volcano Lake and Saiz levees [indicating], or something in the neighborhood of 200,000 acres. That is assuming that the land did not go bad from waterlogging or something else. Already some areas have gone bad.

Let us consider next the matter of water supply. This photo is looking up the Colorado River from a point approximately beside the Hanlon head gate. We are looking up the river. This picture was taken in 1924. Here is a 1924 vintage automobile out in the middle of the dry river. In other words, the river below our sand dam was absolutely bone dry. Now, if that had happened once, twice, or three times, I would, of course, think perhaps it would not be very important. But I am going to give you an analysis of the dates and the amount of time this river has been bone dry in Mexico since I became connected with the district in 1922.

In other words, during those times there would not have been any water which Mexico could have diverted at any point below the boundary in Mexico. It just would not have been there. These are actual records of our diversions.

The CHAIRMAN. Was the river in that picture flowing water?

Mr. DOWD. No; this river was dry. Here is an automobile.

The CHAIRMAN. That is a picture of the dry river?

Mr. DOWD. Yes, sir. If you will notice, the white to the left is the sand that our big suction dredges pumped out of the head end of the canal. If the flood was very heavy, we put in a temporary weir across the river. That was put in at about this point [indicating], a short distance above and opposite Hanlon head gate, in the river. The reason was that the first weirs were put in before we built the Rockwood gate, and we had an open cut from the river to the Hanlon heading, and the temporary weir was put in to try to shoot the water across to Hanlon heading. After we built Rockwood, we used the same location for the weir. That weir did not raise the river very much. When you talk about raising the Colorado River as much as 2 feet, unless you have tried to do it, you have no appreciation of what it means. With a flow like we have even now, say, 20,000 to 30,000 second-feet at times, the only way that it can be done is with rock. We know because we have tried it. That rock will go to great depths in the river. It will just work down into the soft silt deeper and deeper. It is really a tremendous job.

But the brush mats we put in would catch the heavy silt, because at that time, without Boulder Dam, the flow of silt was tremendous, and it would help the river silt up faster than if there were no brush mats there. But when the river dropped low enough, we would take the discharge from these big suction dredges—and they were whoppers—that we used to keep open the upper end of the canal. We would concentrate the discharge outlets a short distance below Rockwood gate and simply pump a sand dam across the river. As long as we could divert the entire flow, the dam would stay there; if a little more came, it would overtop and go out like so much sugar.

I am going to read to you those times when the river was dry and there was no water going below Rockwood gate into Mexico.

In 1924, from August 4 to October 16, which was 74 days, the sand dam was in place, and we diverted every drop of water into the Alamo Canal. During that time the minimum diversion was 1,295 second-feet. That is a far cry from the 5,000 second-feet guaranteed to Mexico under this treaty.

The CHAIRMAN. Now many acre-feet is that?

Mr. DOWD. For 1 day, of course, that would be about 2,500 acre-feet.

THE CHAIRMAN. Per day?

Mr. DOWD. Per day.

The CHAIRMAN. And Mexico got none?

Mr. DOWD. Mexico got half of it.

The CHAIRMAN. I know, but it was going through the Alamo Canal?

Mr. DOWD. It was going through the Alamo Canal into Mexico. Under our concession, Mexico was entitled to half the daily flow that went through. That year our total deliveries to Mexico were 613,667

acre-feet. We prorated under our concession between Mexico and the United States from August 18 to September 18. In other words, they took half the flow for those 32 days. In other words, that was all the water Mexico could get. That minimum was one-half of 1,295 second-feet. It dropped that low.

In 1925, from January 4 to January 11, 8 days, we diverted the entire flow, and it was about 1,200 second-feet.

By the way, here is a picture of Rockwood gate. It is over 700 feet in length. It is the largest diversion dam, I believe, that there is anywhere. Here is the Colorado River flowing south into Mexico [indicating]. The water comes through the Rockwood gate and goes down the Alamo Canal. In the background is Hanlon heading. Hanlon is the real control of the water to Mexico; Rockwood heading does not control. The Hanlon gate, located about a thousand feet above the Mexican boundary, is the real control gate. Please remember that. This structure [indicating Rockwood] is built so that the north half of it is considerably deeper than the south half. In January 1925, we could walk along the sill of this south half. There was only 1,200 second-feet coming through the north half at that time, so the river was absolutely dry during that period below Rockwood.

In 1926 we had the sand dam in place from August 29 to October 2, 35 days. During that time we diverted the entire flow into the Alamo Canal. At times then Mexico used half of the flow. In other words, her half was her limit.

In 1928, from August 23 to October 18, 57 days, the sand dam was in place, and not a drop went below it into Mexico. For about 25 days we had to prorate between Mexico and the United States. Mexico took half of the water. Of course, actually there was only about half of the land being irrigated in Mexico that there was in the United States, but that was one of the panalties we paid for the concession. That year the total deliveries to Mexico were 712,255 acre-feet, about a maximum.

In 1930, from September 29 to October 3, or 5 days, we had the sand dam in place, but in that year Mexico used only 484,919 acre-feet. In other words, had Mexico been attempting to get 750,000 acre-feet in 1930, there would have been a whale of a shortage. But her actual use was about 300,000 acre-feet short of what she had used as a maximum.

Senator MILLIKIN. Was the sand dam built with the consent of Mexico?

Mr. Dowd. No; she had nothing to say about it; in other words, it was in the United States.

Senator MILLIKIN. The entire stream?

Mr. Dowd. Yes. Here is the boundary line [indicating]. The boundary line is about a thousand feet from the Rockwood gate. It comes across from San Diego to the Colorado River, then south along the Colorado River 20 miles, and then across Arizona.

Senator MILLIKIN. There was some testimony that under the treaty we were not allowed to run dams across the river:

Mr. Dowd. I think I will be able to show you that under the treaty of 1853, which is the Treaty of the Gadsden Purchase, the obligation was on Mexico to maintain navigability. There was no obligation

whatsoever on the United States within its own territory in regard to maintenance of navigability. I think that is quite important. I will come to it later.

In 1931, from July 23 to August 7, and from August 22 to October 1, 57 days, we had the sand dam in place. From July 24 to August 6 and from August 27 to September 1, 19 days, we prorated between Mexico and the United States. But in that year Mexico took only 380,000 acre-feet. In other words, if she had taken the 750,000 acre-feet that we talk about being willing to give her, that would have been twice what she got that year. Yet for 57 days, even so, we took the entire flow of the Colorado River.

It might be of interest to state that in that year we diverted in January 100 percent of the flow; in March, 100 percent; in April, 83 percent; in July, 75 percent; in August, 80 percent; in September, 100 percent; and in December, 96 percent of the flow reaching this point.

The minimum flow available for diversions were: In July, which is a month of maximum use in Mexico, August being the other, the river dropped down to 1,900 second-feet; in August, to 1,600; and in September, to 860 second-feet.

Whenever you guarantee Mexico even as much as 750,000 acre-feet, month by month, and as she wants it, you are giving her something she could never have had under natural-flow conditions.

In 1932, from September 23 to October 2, 10 days, the sand dam was in place, but in that year Mexico used only 217,534 acre-feet, or 29 percent of the 750,000 acre-feet. So had Mexico been using 750,000 acre-feet, she would, of course, have been very short.

Nineteen hundred and thirty-four, of course, was the worst year we ever had. We thought we saw something in 1931, when the river dropped down to about 4,000,000 acre-feet; but in 1934 it went considerably below that. From March 14 to April 23 and from June 22 to December 25, 228 days, we took every drop of water that came down the Colorado River. And, by the way, Mexico got only 426,000 acre-feet that year.

The minimum flow available for diversions were: June, 2,700 second-feet; July, 400 second-feet; August, 350 second-feet; September, 600 second-feet; October, 800 second-feet; and November, 1,100 second-feet.

Of course, in 1935 Boulder Dam started to store water, and, naturally, we have had no shortage since then. But without Boulder Dam, in most years there would have been severe shortages in Mexico. And bear in mind that there would have been no water for Mexico to divert below her boundary, except possibly a little return flow from the Yuma project, which did not amount to anything.

So that is a record of the actual conditions that have obtained on the river during that period.

Now, next, we have carefully analyzed the river situation month by month since 1913, assuming that the All-American Canal had been built and had supplied the present developed area in Imperial Valley. If we are going to assume that Mexico could have pushed her own development, we might just as well assume that the All-American Canal could have, which it could very easily have, been built. We hold that under our 1904 concession the Mexican rights applied only so long as we took water through Mexico to the United States, the terms of the

concession are very clear and very plain. It was entirely a Mexican corporation, and the concession stipulated certain conditions, while certain other conditions obtained, such as carrying water through Mexico. The All-American Canal could have been built earlier just as well as not. So let us put it on an equal basis. Let us assume that Mexico had tried to push her development to require 750,000 acre-feet each year. As a matter of fact, it was not an economic condition that prevented it during all those years. Up until the early 1930's the entire development in Mexico had been made and maintained with American money. American money developed and farmed her lands and built the canal and levee system to irrigate and protect them, with our headgates furnishing the water, the district investment amounted to the \$10,000,000 already mentioned. There was plenty of money back of the development of Mexico had it been possible to make it.

I shall not take time to go into this in detail, but I do want to emphasize to the committee that this idea that Mexico could have used 1,500,000 or 2,000,000 acre-feet in any year cannot be substantiated with the All-American Canal in operation, taking the natural flow from 1913 to 1943. We have carefully analyzed what the flow would have been in the Alamo without Boulder Dam—in other words, had the river remained in a natural state.

Here is what we find in that period of 31 years. We assumed that Mexico would require 750,000 acre-feet per year. In other words, we took the maximum that Mexico had used. We took month by month the water she did use during the year she used the maximum and we applied those amounts month by month against the actual amount available, such as I am describing to you. We found that out of those 31 years there were 25 years, or 81 percent of the time when Mexico would not have gotten 750,000 acre-feet. May I just briefly sketch through the months? We will take it month by month.

For January, during the period of 31 years, there would have been eight Januarys, or 26 percent of the time, when Mexico could not have gotten her January requirements. February, 8 years, or 26 percent, March, 6 years, April 7 years. May is the only month out of the whole 12 months when, during this period of 31 years, she could have had the amount she required to equal her 750,000 acre-feet a year. For June there would have been 1 year when she could not have met her requirements. July 4 years. August 19 years, or 61 percent of the time; in other words, in 61 percent of the months of July during that period, Mexico would not have gotten the amount she would have had to have to equal 750,000 acre-feet a year. For August, 19 years would have been short. September, 22 years, or 71 percent of the years. October, 17 years; November, 11 years; December, 7 years. There was a total of 25 years out of 31 when there would have been some shortage.

Taking the monthly shortage as a percentage, there are a number of months when there would have been a 100 percent shortage. For the year as a whole, Mexico would have been short of 750,000 acre-feet all the way from a few percent up to as much as 40 to 46 percent.

We feel that this is pretty conclusive that no claim can be substantiated that without Boulder Dam Mexico could have looked for or could have expected to receive even as much as 750,000 acre-feet.

Senator DOWNEY. Mr. Dowd, does your later testimony discuss why it was that the run-off of the Colorado River was so low at this bound-

ary, because of appropriations from Wyoming and Colorado, and clear on down?

Mr. Dowd. Well, I can mention that in passing. That, of course, had some effect on it. During the earlier years there had been an increase, although from along about 1920 to 1922, from that point on, there had been very little increases in the appropriations in the upper basin. Those in use had been made before that time.

Senator DOWNEY. Mr. Chairman, if I may just ask this question, then I will desist. As a matter of fact, were there not several million acre-feet of water that was appropriated and being used in the upper river?

Mr. Dowd. Oh, yes; that is true; and I think it was generally recognized by the upper basin—that many of those appropriations in the upper basin were junior to some of the rights in the lower basin. But, of course, Boulder Dam corrected that. I think you will note in the Colorado River compact that it provides that whenever 5,000,000 acre-feet of storage has been provided in the river, such will offset any claims of prior users in the lower basin and shall be used to supply any of those prior claims.

In this last analysis I have just described, we assumed that it would have been possible for Mexico to have diverted the entire remaining flow, which, of course, we claim could not have been done. First, we think that if treaties are binding, if they do amount to anything, then the treaty of 1853 would have precluded Mexico from putting any dam or structure in the river that would have diverted the entire flow. If you will recall, in that treaty Mexico is the one who guarantees the navigability of the Colorado River, the citizens and vessels of the United States to always have free and uninterrupted passage from the Gulf of California to the California-Mexican boundary at this point [indicating]. It is true that although the river was navigated for many years prior to the building of the railroad, it has not been navigated in recent years. As a matter of fact, however, the construction of Boulder Dam has made, and will for many years in the future make, that river navigable for a long, long way in Mexico, so that we have not in the United States, as I see it, so far affected navigation in Mexico.

The Mexicans seem to apply the same principle on the Rio Grande. In these 1929-30 discussions Mexico did not hesitate to assert the navigability clause as applied to the Rio Grande by the treaties of 1848 and 1853. It might be interesting to note their discussion in that regard.

If you will recall, the American section had offered Mexico 750,000 acre-feet on the Colorado River. In other words, we said, "We will recognize present uses in Mexico on the Colorado River as a prior right. In turn, the United States asks that the present uses in the United States on the Rio Grande be recognized by Mexico as a prior right."

To that Mexico said, "Oh, no; you cannot do that."

I quote from page 75, House Document No. 359, of the Report of International Water Commission:

The proposal submitted by the American section to the effect that present uses of water of the Rio Grande in both countries be given priority rights cannot be accepted by the undersigned as priority and prescription are not established in international law. The American section states that the present diversions from

the main stream, most of which are on left bank, require the total low-water flow of the Rio Grande, which would mean that if such priority rights were recognized, Mexico could not develop a single acre in the future.

That means, of course, without storage.

The total diversions made on the left side against established practices of comity and equity and international law, which should regulate the regulations between nations, and disregarding the navigability clause of the treaties in force, evidently cannot establish priority rights.

In other words, the committing of an illegal act cannot gain a legal right.

I mentioned to you this morning that the navigability clause is recognized in the concession from the Mexican Government to our company in 1905. The United States still considers the river navigable. We have never indicated it as not navigable. The Boulder Dam Act, you will recall, sets it up. The War Department still is in charge of the lower river because it is considered as navigable. Every year that we wanted to put the temporary weir across the river, we filed an application with the War Department, hearings were held, and we went through the procedure of hearings, and so forth. In building transmission or telephone lines across the Colorado River, the same thing is done. As late as this year, in connection with a temporary weir being put in by the Reclamation Bureau up the river, at the Palo Verde intake, which is about half way to Needles, we received notice from the War Department that application had been filed. So it seems to me that navigation rights are still of some importance.

Now, of course, if these treaties are made only to be torn up and disregarded, I wonder whether the proposed treaty, if it is ratified, would in 25 or 50 years have the same treatment. We also know that Mexico has suggested a time or two that this navigability clause in the Treaty of 1853 be eliminated. We wonder why. We think that Mexico realizes that so long as that navigability clause, which imposes on her the maintenance of navigation in the Colorado River up to the California boundary, is in that treaty, Mexico is not in a very good position to assert a right to build a structure or divert a substantial quantity of water from the river in Mexico.

I will not take time to quote her, but she herself asked what could be more in violation of navigability than to remove water from a stream? She applied it to the lower Rio Grande, but she would not recognize it on the Colorado.

Of course, Mexico could not build a diversion dam in the 20-mile stretch in Mexico where it constitutes the common boundary, because one-half of the dam would be on United States soil. Therefore, she would have to make a diversion without any diversion dam. She could not even build one in her country, because in order to divert water, in low flow particularly, she would have to raise the water quite high to get it out of the river. In the first place, she could not have irrigated the land in question, the land being irrigated prior to Boulder Dam, because such diversion dam would be too far down the river. Secondly, if she had tried to build a dam, it would have backed water up onto United States soil, and I believe the people of the Yuma Valley would have said something about it. I do not believe one nation can do that to another nation.

There has never been, prior to the construction of Boulder Dam—I will say to this day—a successful diversion from the river below the California boundary line, in the United States part or in Mexico. I think there are good reasons for that. It has been attempted. I mentioned this morning that a dam to divert water 4 miles in Mexico resulted in the break of 1905 to 1907. It was a complete failure.

I will also put up these two pictures. I doubt if you can see them, but maybe you can. They indicate how the river shifts back and forth all down through the delta country.

It has changed its course almost year by year, having one course before a flood and another course after a flood. We changed the course of the river into Pescadero as I have previously discussed. Right away landowners commenced efforts to develop the land our new levees protected. They tried the idea of putting in siphons over our levees. They did not attempt to make a cut in our levee; they knew it would be too dangerous. They put siphons over the top of the Pescadero Dam and got a little water out from 1928 to 1932. In the meantime the river shifted, it moved a mile away from their siphons. They put \$100,000 into dredging equipment in an endeavor to keep the approach channel open, but they could not do it, and the entire diversion had to be abandoned.

They tried it again across the river on the Sonora side. They built a levee across from Pescadero [indicating the San Luis levee], and there they put in some siphons with the idea of irrigating the land on the east side of the river. The first year the levee broke, the siphons washed out, and the canal they had constructed became the river channel, and that is where the river is now running.

There has never been a successful diversion from the uncontrolled stream below the California boundary; and the reason of course is the shifting of the channels, which cannot be controlled, and so forth.

We have built Boulder Dam, which has freed a large area in Mexico, at least temporarily, from the flood menace, which never would have been freed had we not built Boulder Dam.

We are not objecting to Mexico's getting the benefit of it, but now Mexico comes in and says, "You built this dam and have stored the water; now you have got to deliver us the stored water to irrigate this land that you freed from the flood menace"—we believe this is hardly justified.

Next, I would like to discuss briefly the changed condition which occurred when we built Boulder Dam and the All-American Canal. I think you gentlemen realize that the lower Rio Grande and the Colorado are entirely different.

In anything I say that relates to Mexico I want you to understand that it is not said in the spirit of animosity. Because of our connections, because of our concession, we have dealt with the people of Mexico for a great many years. We have found them to be very fine people, and I sometimes wonder, if the situation had been reversed, whether we would have been as tolerant of them as they have been of us. I admire the way they have handled this treaty situation, the way they have timed their negotiations with the United States.

On the lower Rio Grande Mexico was in no hurry to develop. She had the tributaries; she could build dams on the tributaries. The United States had plunged ahead and developed on the lower Rio

Grande to where the low flow was exhausted. Mexico knew that neither country could put in conservation works and control the flow without the consent of the other country. She could bide her time.

On the Colorado, however, prior to the building of the All-American Canal, and with the concession in effect, Mexico was in a good position, because she could demand half the water and we could not do anything about it. She also realized that any conservation works would have to be built in the United States. She would not recognize prior use until required. She wanted 3,600,000 acre-feet as being her half of the concession. However, with the building of Boulder Dam and the All-American Canal, and with the proposal to build what is called No. 5 project, or the valley gravity project, on the lower Rio Grande River, Mexico saw that the time had come when something should be done, and she knew that the building of the All-American Canal would remove her excuse or her right to ask for 3,600,000 acre-feet. She realized that the United States could, if it desired, absolutely control development in Mexico on the Colorado River. She realized on the lower Rio Grande that we were in position down there where we could go ahead with this valley gravity project. So she felt that she had better get going while the going was good.

We felt that a treaty was desirable, but we had gone through all this period of years when Mexico was in the saddle on both rivers, and now had come a time when the United States was in the saddle, and we did not think it was necessary to rush into any kind of a treaty. A treaty was all right, but we did not have to rush into just any kind of a treaty.

When the matter came up with the State Department we asked them not to rush a treaty if we were going to have to go further than 750,000 acre-feet. Knowing the conditions as they existed, we knew that Mexico would have to come to the United States for water on the Colorado River. It would become apparent that Mexico would have to rely on the United States as to the Colorado River, to get her water, and that would show up the situation to a point where we could get what we thought would be a fair treaty.

I would like to bring to your attention the attitude of our district in regard to the delivery of water to Mexico, the amount of water that Mexico should get—

Senator MILLIKIN. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MILLIKIN. What percentage of the capacity of the All-American Canal are you using?

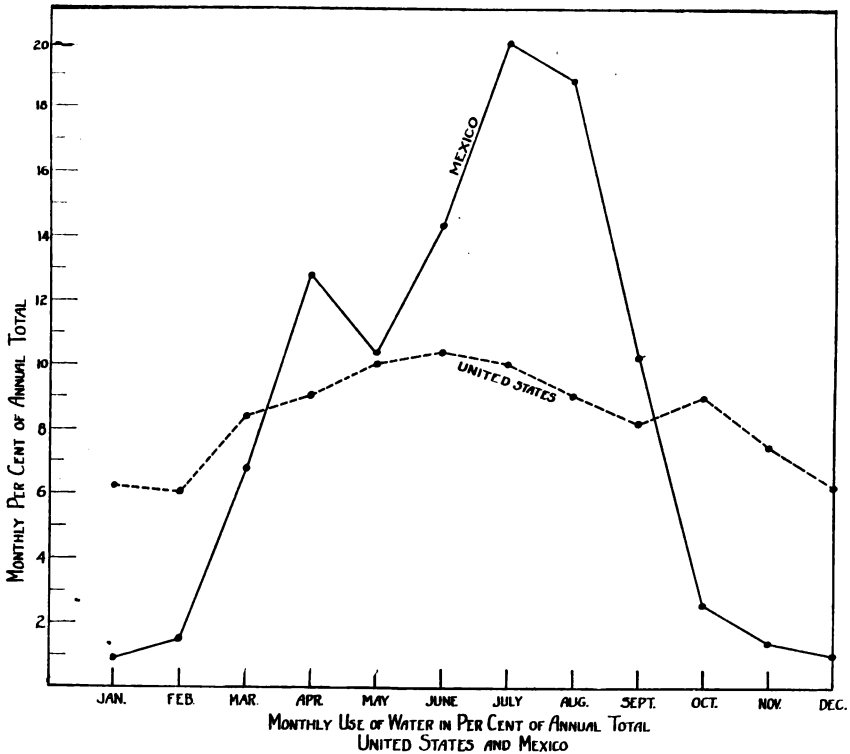
Mr. Dowd. We are using about 5,000 second-feet now below Pilot Knob.

Senator MILLIKIN. Just what percentage?

Mr. Dowd. The capacity is 10,000 second-feet.

In that connection, I want to say that, due to a change in the type of crop in the valley, we have somewhat changed our demands month by month. In other words, we do not have as high a demand as we used to have. I might as well mention that right now, since you have raised the question.

This chart [exhibiting] has been prepared to show the water used in Mexico and in the United States, in Imperial Valley, month by month, each point representing the percent of use each month of the

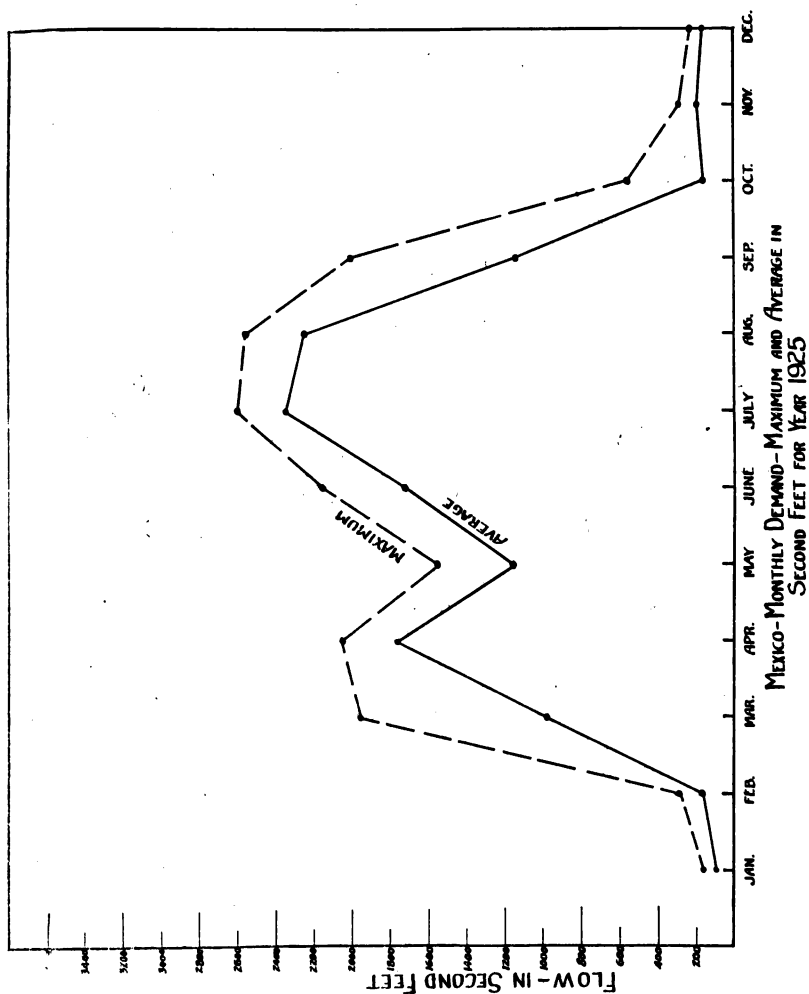


annual use. For instance, for Mexico in January it is 0.8 of 1 percent of the total for the year. You will notice how sharply the line rises. In the month of July it gets up to 20 percent. In other words, in July, in Mexico they used something like 20 percent of the total amount they use during the entire year. In August it is about 19 percent. As a matter of fact, in the 3 summer months of June, July, and August Mexico uses a little better than 50 percent of the entire amount she uses all during the year. That is because it is a one-crop country. It has just a cotton crop, and naturally she uses extra water during the summertime. That is one reason why canal losses are lower in the Mexican canal system, because in the wintertime it is dry.

On the United States side we run considerable water all through the year, and our losses from that angle would be higher. Instead of 0.8 percent in January, in the Imperial Valley, we use about 6 percent of the total. And you will notice how flat the curve is. Our maximum use is in June and is only about 10 percent of the annual. If we used the same amount all the year it would be a little over 8 percent per month.

Senator MILLIKIN. Since the construction of Boulder Dam how much have you expanded your district's irrigable acreage?

Mr. Dowd. We have not expanded any. We have other acres we want to expand, and we have taken that area [indicating] into the district. The canal was just completed in 1942 and there has been no further expansion in the valley.



So there you have the difference between Mexico and the United States. In other words, the United States use more nearly hits a flat line than the Mexican use.

Does that answer your question?

Senator MILLIKIN. Yes. I was wondering whether you could run the water into the Salton Sea and thus create a trading lever against Mexico?

Mr. DOWD. I will come to that right now.

The CHAIRMAN. You say there is 1,000,000 acre-feet going into the Salton Sea per year. Will you explain where it comes from and how it gets there?

Mr. DOWD. Yes, sir. You will recall that you had estimates here on return flow of as much as $2\frac{1}{2}$ acre-feet per acre. If we are irrigating 450,000 acres, $2\frac{1}{2}$ acre-feet per acre would be approximately that figure of 1,000,000 acre-feet. But from that angle we do not believe there is any such return flow required; and I will explain that when I come to it.

As I mentioned, the All-American Canal was completed to the extent that all our water was diverted through it in March of 1942, and a little later Mexico got into trouble down in the lower delta.

I might show you these two pictures so that you will have a better idea of what they attempted to do [exhibiting pictures].

This picture, if you can see it—I guess you can get the outline of it—is taken looking southwest from the lower end of Pescadero. You will notice how the river fingers out; and in flood season the entire country there is just a mass of channels of silt and water, and, of course, the bulk of the silt was dropped in a small area, because as the river spread out it was dropped. That is the way the river played around.

This [indicating] is the area that Mexico has put into cultivation since the building of Boulder Dam.

Here [indicating] is a view looking north toward Pescadero, showing how the river spreads out. In the foreground you will notice a sandy area. Although on this picture you can see just one thread of the river, in floods the whole area was covered. The bottom of the picture is about the head of tidewater.

I assume you know that the Gulf of California has the second highest tide in the world, a tide of about 27 feet, and that forces the river water back over a tremendous area of the lower delta.

Now that Boulder Dam has been built there is not near the same effect, because instead of having from 100,000 to 150,000 second-feet going down there we have maybe 10,000 or 12,000 or 15,000 second-feet. But that was something that had to be contended with and had to be seriously considered in connection with our flood-control problem.

Have I answered your question?

The CHAIRMAN. Yes.

Senator WILEY. Have you told us how many acres, since the building of Boulder Dam, have been really put under cultivation?

Mr. DOWD. We do not know.

Senator WILEY. You have no approximation of it?

Mr. DOWD. No, sir; we do not know. I showed you on the map as best I could the comparison with the area served by the Alamo Canal;

but it is impossible for us to get data down there on these areas served by a large number of small pumps.

Senator MILLIKIN. You were going to tell us how you were going to build up your trading pressure against Mexico.

Mr. Dowd. Yes, sir. I have a picture showing the new channel, but the diversion I mentioned into the canal at Pescadero in 1929 carried the river off to one side. With the building of Boulder Dam Mexican interests went in and broke the brush down on this land [indicating] in the foreground, and put in miscellaneous pumps to pump water out of the river.

The release from Boulder Dam was increased slightly along toward the middle of 1942, and it put several thousand acres of that new land under water because this was extended down in this lower area [indicating on map]. Immediately there was a request from Mexico for the United States to reduce the flow from Boulder Dam, although there was only about 35,000 second-feet. Later on in the summer the release from Boulder Dam was cut somewhat, to do some work up there, and it dropped below the suction of the pumps, and there was a very vigorous request on the part of Mexico to increase the release from Boulder Dam so as to raise the river high enough to where the pumps would reach it. That was done by the Bureau of Reclamation at the request of our State Department.

Right there it shows, of course, that it was Boulder Dam that had to regulate the flow, or that whole development down there would have been wiped out.

We also had difficulty at Andrade in diverting water to the Alamo Canal for Mexican wants in 1942. We knew that the use of pumps in the lower delta had not proved very satisfactory, and we knew that they had built a check on the Alamo Canal 6 to 7 miles down in Mexico to raise the water of the Alamo Canal to eliminate certain pumping from the canal and also to get the water high enough to go on south into the lower gulf to irrigate some of the new land that had been put in since Boulder Dam was built and which was being served by pumps.

So the question came up, What were we going to do if Mexico asked for an increase in diversion of water?

You understand, of course, that our getting out of the Alamo Canal was a gradual proposition. As the All-American Canal was completed, from time to time, we gradually took some of the supply from that and not from the Alamo Canal, but from March 1942 on we took all of the water for Imperial Valley from the All-American Canal. We had an investment of \$8,000,000 in Mexico and \$2,000,000 at Andrade, and it certainly would not have been proper to have simply slammed down the gates on Mexico. So the question came up, What should we do? We took it up with a representative of the State Department, and it was rather felt that perhaps the time had come when the United States should announce a policy on the Colorado River.

The result was that a letter was sent from the State Department to the Committee of Fourteen—that is, the representatives of the seven States—setting forth the fact that Mexico might and probably would be asking for an increased diversion, and also the question of increasing the release at Boulder Dam to accommodate this new development down in the lower delta. The letter asked advise of the seven States on what should be done about it.

The Committee of Fourteen met in Denver on October 17 and discussed the entire situation.

The CHAIRMAN. What year?

Mr. DOWD. 1942. The result of that was a resolution adopted at that meeting, which I will not take the time to read in full. It simply requested the State Department to take any action necessary as would best protect the interests of the United States in the premises; that is, in regard to the Colorado River, and in particular, so as to prevent future negotiations by Mexico of claims based on amounts of Colorado River water in excess of Mexico's use prior to the construction of Boulder Dam.

The committee also appointed a subcommittee, one member from each State, to meet with representatives of the State Department and find out if that were sufficient or if anything else were necessary.

The subcommittee met with the State Department at El Paso on October 26 and 27 of that year. The representatives of the State Department reiterated that at any time Mexico might request additional water, which would be delivered by the facilities operated by the Bureau of Reclamation, such as Boulder Dam, and the Yuma project, or those operated by Imperial irrigation district, and they wanted advice of the States.

They also indicated to us that they expected to tell Mexico that although Mexico had wanted 2,000,000 acre-feet, it would not be available; in fact, in a series of dry years there would not be 1,000,000 acre-feet available. We thought it was a very fine attitude on the part of the State Department and felt we were safe enough. But they said that the resolution which we had adopted on October 17 was not sufficient. They did not give any details. They asked for more advice from the States.

So, on November 16, 17, and 18 the Committees of Fourteen and Sixteen, including representatives of the power interests, met in Los Angeles, and this matter was discussed up and down from one side to the other, as to the policy that should be followed, and what should be recommended to the State Department. Out of that meeting came a resolution which stated, in the main that the seven States were of the opinion that the delivery of water to Mexico should be consistent with the operation of Boulder Dam and other works in the United States for the several purposes for which they were constructed.

That the use in Mexico of water conserved and made usable by works in the United States which may not for the time being be used in the United States and therefore may be available for use in Mexico, and delivered pursuant to the notice mentioned in paragraph 5 hereof, shall not create a claim of right on the part of Mexico; and no recognition of such temporary delivery of water and the use of it in Mexico shall be given by either country as constituting a right or a basis of claim in negotiating a permanent treaty on the subject of allocation of water of the Colorado River to Mexico.

There were several other paragraphs. I will file the resolution with the committee.

Paragraph 5 provided—

That the Department of State shall promptly give to Mexico appropriate notice of the conditions herein set out, upon which temporary delivery of water shall be made.

In other words, unless Mexico were willing to recognize the fact that she should not claim the use of any water made available by facilities in the United States, then the water should not be delivered to Mexico.

Reading further from the resolution :

That the Department of State is requested to ask, and to advise Mexico that it has asked, the agencies, both public and private, which operate control facilities on the Colorado River to be guided by the conditions and principles above set forth, in their operations and agreements with respect to water made available for or delivered to Mexico.

In the opinion of the committee it would be preferable that the express assent of Mexico to the principles and conditions above set forth be procured as a condition precedent to the temporary delivery of water to Mexico, and the committee requests that the Department of State give earnest consideration to the desirability of securing such assent. The committee, however, submits this opinion and request subject to the discretion of the Department of State.

In other words, the States were simply saying that the time had come for the United States to announce a policy on the Colorado River; that if Mexico required the use of facilities in the United States, and if the United States were willing to make those facilities available, in all fairness Mexico should not use those facilities and then come back later and say, "You let me use your facilities; now you have got to let me continue the use of them."

That was the resolution adopted by the Committee of Fourteen.

That was presented to the State Department. They said they could not understand everything that was set out there; they wanted a further explanation. So a subcommittee met with representatives of the State Department in Denver on December 7 to 11 and prepared a quite lengthy explanation of what was meant by this resolution. We not only presented a written statement to them, but spent considerable time in explanation. That subcommittee was composed of Judge Stone, who was chairman of the Committee of Fourteen, Mr. Wallace, of Utah, and Mr. Shaw, of California. One sentence that we all agreed to at that time is interesting :

In the interests of comity and of substantial justice to the United States, the use of American facilities to the benefit of Mexico should not in the future be relied upon by Mexico to increase and substantiate the demands on the part of that country.

Senator MURDOCK. What is the date of that?

Mr. DOWD. The date of this explanation was December 11, 1942.

Senator MILLIKIN. May I ask another question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MILLIKIN. Was not the whole purport of that, "Abandon your claim of right, or we will shut off your water"?

Mr. DOWD. Abandon your claim to any additional water—any water made available by American facilities—or we will shut off your water.

Senator MILLIKIN. Assuming they thought they had a claim, from their standpoint, assuming they thought they had a right to expand their use of water?

Mr. DOWD. By the use of American facilities?

Senator MILLIKIN. We were saying, "Abandon your claim, or we will shut your water off."

Mr. DOWD. We were saying, "We will not allow you to use our facilities for additional water." We did not say we would shut the

water off. The idea was that we would not allow the use of American facilities for additional water.

Senator MILLIKIN. That is what the claim comes to?

Mr. DOWD. That is right.

There was nothing further heard from the State Department, and our district in particular was not satisfied. We felt as we had felt for many years, very keenly about the situation. We thought the time had come when something should be done; and so, in an endeavor to again bring the matter before the State Department and see if we could not get some kind of action, on January 19, 1943, our board passed a resolution which was sent to the State Department, with copies to the International Boundary Commissioner and several others. In this resolution we pointed out the fact that the All-American Canal was being utilized to supply all of the water for Imperial Valley in the United States; that its old headworks at Andrade from that time on would be used only to supply lands in Mexico, and so far as the district knew there was no existing treaty or contract or understanding of any kind or nature between the United States and Mexico, under which water from the Colorado River had been allocated to Mexico; that by reason of the construction of the Boulder Dam and other facilities there would for a long time be surplus water going into Mexico, temporarily available until such time as it was used in the United States.

I will quote from the resolution of January 19, 1943:

Whereas it is a well-established fact that the total water supply of the Colorado River [all of which originates in the United States, none being contributed by Mexico] is insufficient to meet the demands of feasible projects in the United States, and as a consequence of that fact, any allowance of water to Mexico must occasion the abandonment forever of projects in the United States, which otherwise could and would use such water; and

Whereas by the terms of the Colorado River Compact and the Boulder Canyon Project Act allocations of water have been made among the States of the Colorado River Basin in the United States, and contracts have been entered into between the United States and public and private agencies for the use of water and power made available by Boulder Dam and other facilities, constructed on the Colorado River in the United States; and

Whereas the water of the Colorado River represents the greatest single natural resource of the Southwest and of the seven States included in the Colorado River Basin of the United States, and, because of the value and possibilities of this resource in the development and prosperity of this large area, it is a resource of national importance—

I will not read any more "whereases," but it says, further, that from information available—

it appears to be quite likely that there will be a considerable increase in the demand for Colorado River water in lower California, Mexico, in the year 1943, over and above the amounts of water used in Mexico from the natural flow of the river prior to the construction of Boulder Dam, and such increased demand, if granted, must be supplied by diversion works and other facilities located in the United States. * * *

* * * in the event the use of facilities in the United States for delivery of water to Mexico is to be restricted or any other action is to be taken in connection therewith, then notice of such restriction or such action should be given to the potential users of water in Mexico prior to the preparation and seeding of their lands for crop and before water is ordered for the irrigation of said lands.

In other words, that we should be decent about it; we should not wait until they had the crop in and say, "Now, unless you agree to this, we will not let you have any water for your crops."

Senator MILLIKIN. What beneficial use can we make of the Colorado River within the United States that we are not making right now? I do not mean in the future.

Mr. DOWD. I do not quite understand your question, Senator. Do you mean, immediately?

Senator MILLIKIN. If you cannot put this water to use with American facilities, the water is bound to get back to the Colorado River, is it not?

Mr. DOWD. As a matter of fact, we can, through the regulation of Boulder Dam, absolutely control the development and use of water in Mexico right today; and when Davis Dam is completed, it can be done with no difficulty at all. I am not advocating that we do it, but I would say that if Mexico is not willing to recognize fair play they could be put into a position where they would not have use of additional water. It is not a question of making some use at this time. I think you will see what I am getting at here. We point out to you, though, that if Mexico is going to have an increased use, it would mean an increased diversion and an increased use of this canal.

Senator MILLIKIN. It is either a question of making increased use at this time within the United States or withholding from over-all river use certain waters which would otherwise pass into the Colorado?

Mr. DOWD. A regulation of the water as to certain times and amounts.

Senator MILLIKIN. That is the same as withholding. Do you agree with me on that?

Mr. DOWD. Yes.

Senator McFARLAND. Did your district make application to the Interior Department for permission to make a contract with Mexico?

Mr. DOWD. If you will be patient with me, Senator, I am going to come to that.

Continuing with the resolution of January 19, 1943:

Whereas the Department of State represents the United States and is the agency by which treaties are negotiated and international policies of the United States are formulated; and

Whereas this district is desirous of acting in the best interests of the States of the Colorado River Basin and of the United States and in cooperation with said Department of State and is also desirous of cooperating with the Government of Mexico and with the users of water in Mexico, supplied by and through facilities owned by said district, insofar as may be possible without adversely affecting interests in the United States—

In other words, they are our friends and neighbors, and if we can amply protect ourselves, we are glad to cooperate and work with them.

Continuing reading from the resolution:

Now, therefore, be it—

Resolved by the Board of Directors of Imperial Irrigation District;

1. That the Department of State be and it is hereby respectfully requested to give this district its views relative to the use of facilities in the United States for the delivery of additional water from the Colorado River to Mexico, pending the making of a temporary agreement or a permanent treaty with Mexico in the premises.

2. That this district is, in particular, desirous of learning the views of said Department of State on the following subjects:

And may I point out to you that this resolution was never given the slightest publicity. We would have welcomed advice from the State Department, any indication of what they would like to have us do;

but it was never given publicity until this time when I am now reading it to you.

That this district is, in particular, desirous of learning the views of said Department of State on the following subjects:

(a) Should facilities in the United States be used to deliver water from the Colorado River to Mexico during 1943 in excess of the amounts that would have been available to Mexico from the natural flow of said river during said year, had Boulder Dam not been constructed;

(b) Should such deliveries be limited to the average amount received by Mexico during the 10-year period prior to completion of Boulder Dam;

(c) Should such deliveries be limited to the maximum amount received by Mexico prior to the completion of Boulder Dam;

(d) Should such deliveries be unlimited; that is, should all demands for water be met insofar as it is possible to do so;

(e) Should deliveries be made on some basis other than the foregoing;

(f) Should deliveries under any of the foregoing bases be made upon conditions? If so, what shall be the conditions? How should they be made effective and by whom?

And then we point out the fact that crops go in very soon, and we ask for prompt consideration of the State Department of our request.

In other words, we wanted to play ball with the State Department, and we tell you gentlemen today that if the State Department will ask us tomorrow morning to reduce the flow at Hanlon headgate to a certain amount, we will do it and keep it there. We are glad and willing to operate these structures in any way the State Department asks us to.

The claim that we are interested in increasing the use of water in Mexico, that there is a financial gain that we can make by selling water to Mexico, and that therefore our interest is to increase the use, is entirely unfounded and without any basis whatever.

We received a reply sent by Mr. Cordell Hull. I do not mean he wrote the letter, but it came over his signature. We received it on February 4. The resolution is dated January 19. So I guess that is rather fast work for the State Department. The letter reads:

MY DEAR MR. DERMODY—

he was the secretary of our district—

I have received your letter of January 22, 1943, with which you sent a copy of a resolution adopted by the board of directors of the Imperial irrigation district in reference to the problems involved in the delivery of Colorado River water to Mexico in the period that must elapse before the negotiations of a water treaty.

It is noted that copies of this resolution have been sent to Messrs. Duggan and Lawson for their information.

And here is the sum total of his reply:

Pending further developments this Department perceives no objection to the continuation by the Imperial irrigation district of its past practices in the delivery of water to Mexico. In the meantime conferences in regard to this matter are being held with the Department of the Interior.

In other words, so far as they were concerned, they had no policy. They were in a sense telling us to go ahead and "divert what you can and what they ask for as has always been done."

We replied on February 24 to Secretary Hull, as follows:

Your letter of February 4, in response to the resolution adopted by our board of directors under date of January 19, 1943, has been presented to our board. We thank you for the courtesy of your reply.

In view of the reference you make to past practices in the matter of delivery of water, we take it you mean that your Department has no objection to our

district delivering whatever amount of water may be ordered by water users in Mexico, to the extent that the water is available in and can be diverted from the river to meet such orders.

May we assure you again of our desire to be helpful in any way we can. To this end, we shall appreciate having the views of your Department from time to time relative to the matters involved in this problem.

To which we have never received a reply or any suggestion or any cooperation in any way, shape, or form. We feel we went to great lengths, both the committee of the seven States and our district, in particular, to try to get our State Department to take some action, to cooperate in some way in controlling the situation relative to the delivery of water to Mexico. But as I say, nothing further was heard in that regard.

Senator DOWNEY. May I interrupt with a question?

The CHAIRMAN. Yes.

Senator DOWNEY. Mr. Dowd, would there be any legal reason, if your district desired to reduce delivery of water to Mexico now to the Alamo Canal, why you could not do it?

Mr. DOWD. We do not know.

Senator DOWNEY. Why don't you know?

Mr. DOWD. Well, we do not know exactly what our rights are.

The CHAIRMAN. You know they would not get any water unless you did divert it, do you not?

Mr. DOWD. That is true. That is immaterial to us. I do say that in view of the investment of our farmers in Mexico, including canals and levees and diversion works, amounting to \$10,000,000, the Imperial irrigation district should not be asked to decide international policies or to decide whether or not Mexico should be cut off from water.

Senator DOWNEY. Has anybody in Mexico any contract with you for additional water that you would have to serve them with?

Mr. DOWD. No, sir; not at all.

Senator DOWNEY. Is there any contractual obligation under which you have to give them any water now out of the Alamo?

Mr. DOWD. None whatever.

Senator DOWNEY. Only half of what you take through there?

Mr. DOWD. We are taking none through there now. The Alamo Canal is used only to supply Mexico.

Senator DOWNEY. Thank you.

Mr. DOWD. But if our State Department is not willing to indicate any type of policy at all, as a matter of fact, indicating as far as they are concerned that we should go ahead and deliver whatever Mexico asked—they never answered our last letter, even—certainly I do not believe it should be the duty of the irrigation district to make the decision. In the face of the cooperative attitude of the United States toward Mexico and her problems, and in view of all the conditions mentioned, I do not think that the district would be the ones to do it.

I do not mean to say to you that if it came to a question of Mexico's not paying the water charge we might not consider cutting off the water. That is an entirely different matter. When it comes to a matter of policy or of relations between two nations, I do not believe it should be left to a State agency to make the decision.

The CHAIRMAN. How much water are you delivering now through the Alamo Canal in acre-feet?

Mr. Dowd. You mean per day or per year?

The CHAIRMAN. Per year.

Mr. Dowd. About 1,100,000 acre-feet.

The CHAIRMAN. That all goes to Mexico?

Mr. Dowd. Yes.

The CHAIRMAN. Do you get paid for it all?

Mr. Dowd. Our pay is not fixed on the quantity of water she gets, but it is fixed as the rental of our works at Andrade, plus operation and maintenance.

The CHAIRMAN. How do you apportion that among the different owners?

Mr. Dowd. If you will pardon me just a minute, I will get to that. We have an investment of about \$2,000,000 in those particular works at Andrade. They were built and have been used in the past for the benefit of Mexico. The investment is shown in our records and can be established at about \$2,000,000. We have fixed as rental of our works at Andrade \$81,000 a year, and in addition to that we have asked that the Mexicans pay the cost of operation and maintenance. The amount we get out of them, the \$81,000, is not based on 200,000 or 300,000 or 800,000 acre-feet. It is a flat amount.

The CHAIRMAN. You said this morning that some years you could divert 100,000.

Mr. Dowd. That is for delivery in Mexico to users in Mexico.

The CHAIRMAN. That is what I am talking about.

Mr. Dowd. I am talking about the charge that the Imperial irrigation district makes for the delivery of the water at the international boundary.

The CHAIRMAN. What do you get after you get across the boundary into Mexico?

Mr. Dowd. The Mexican company receives the revenue for the delivery of water in Mexico that I mentioned this morning.

The CHAIRMAN. Three or four hundred thousand dollars a year?

Mr. Dowd. Oh, no; less than that, now; a couple of hundred thousand dollars. But that only covers actual operation and maintenance expense in Mexico. There is not one dime of that for any interest on our investment in Mexico, not a dime for depreciation, not a dime for amortization of the investment. And this was recognized and acknowledged by the Mexican Government, as I will show you later.

Senator McFARLAND. Has your district ever considered what the effect might be of your delivery of more than 750,000 acre-feet of water?

Mr. Dowd. That is the very reason we took the matter up with the State Department and got it brought before the Committee of Seven States and had them adopt their resolution. That is why we passed a resolution ourselves and sent it to the State Department, pointing out the situation and asking what should be done about it. The State Department is the one to say what type of policy should be followed between two countries. It did not increase our revenues one iota.

Senator McFARLAND. But you are the ones that really did make the increase in the delivery over what it had ever been before?

Mr. Dowd. Yes; and I will show you where it was joined in by the State Department in 1944. They not only sanctioned it, but finally came around and asked that it be done.

The CHAIRMAN. You say you are withdrawing 1,100,000 acre-feet through that canal now?

Mr. DOWD. That was the diversion for 1943, and about the same for 1944.

The CHAIRMAN. Did they use all that water?

Mr. DOWD. Outside of about 40,000 or 50,000 acre-feet that gets back into the New and Alamo Rivers into the United States.

The CHAIRMAN. You said they had never used more than 700,000.

Mr. DOWD. Prior to the construction of Boulder Dam.

The CHAIRMAN. I am talking about now.

Mr. DOWD. I read the figures to you this morning.

The CHAIRMAN. No; you said you had a blue map and a red map, and you said you did not know how much the red was, but the blue was about 600,000 or 700,000 acre-feet. Now you say that your company is delivering into Mexico, in 1943 and 1944, 1,100,000 acre-feet.

Mr. DOWD. That is the point I mentioned to you this morning. I said we were diverting approximately that amount. The claim has been made that in 1944 Mexico was using over 1,800,000, and I drew this map to indicate to you that those figures—

The CHAIRMAN. I know the map. You showed it to us this morning.

Mr. DOWD. If you know the map you realize what I was mentioning. The blue area [indicating] is served by the Alamo Canal. The difference is about 700,000 acre-feet. The blue area used 1,100,000, and the relatively small red area used 700,000. We believe that it cannot be substantiated, that it was made up of estimates, and so forth, that cannot be substantiated.

The CHAIRMAN. I was curious to know how you could reconcile giving them 1,200,000 acre-feet through the Alamo when you had contended that they never had used that much heretofore.

Mr. DOWD. I am sorry if you misunderstood me, Senator.

The CHAIRMAN. Go ahead.

Mr. DOWD. So we come, then, to 1943, following our submission of the resolution to the State Department and the reply that I read to you. Bear in mind that we had a resolution of the Committee of Fourteen setting up what they thought should be the basis for any increase in use in 1943 in Mexico.

In April our Mexican company sent us a telegram from the Mexican Government in which the Government said that it would be willing to pay 25 cents an acre-foot for any water which was delivered to them through the Alamo Canal; that something had to be done; that the river was at such a stage that the amount of water required by Mexico could not be received, and it was going to mean a loss of crop, and that either one of two things should be done: build a weir or get the use of the All-American Canal; and they asked the Mexican company to do what they could to get the matter cleared up.

On the same date our district wrote to Secretary Ickes.

It might be well at this point to explain that in the All-American Canal contract, in order for us to realize on the proposed power developed at Pilot Knob, the contract, as I said, included 3,000 second-feet of surplus capacity down to Pilot Knob check. It also provided that the district should have the right at any time to divert to the

full capacity of the All-American Canal, whenever water was available. I will read you the language:

Nothing in this contract shall be construed to prevent the district from diverting water to the full capacity of the All-American Canal if and when water over and above the quantity apportioned to it herein is available, and no power development at Imperial or Laguna Dam shall be permitted to interfere with such diversion by the District.

In other words, the Government, realizing the tremendous burden that our district had accepted in agreeing to repay the entire cost of the All-American Canal, realizing we would have to use the power facilities to the fullest extent in order to help repay that, so that the people could use both water and power to pay that cost, agreed that if water was available—and remember that our contracts are subject to the compact—if water was available, and when it was available, we could divert to the full capacity—in other words, so we could make a full utilization of the water for power development at Pilot Knob, and that the Government would not permit any plant at Imperial Dam or Laguna Dam—they were both very small dams so far as height was concerned—to interfere with our utilizing this surplus water. They gave us a first claim to water for power when it was available for use at Pilot Knob. But they also recognized that we should not be permitted to run the water through the All-American Canal down into the Alamo Canal and to Mexico.

You will note that the Pilot Knob Wasteway which connects the All-American Canal to the Alamo Canal was constructed and laid out as a part of the All-American Canal by the Bureau of Reclamation. It spills into the Alamo Canal.

I call attention again to the fact that it is the Hanlon Headgate that controls deliveries to Mexico. The water can either be let into Mexico or go back out into the river. Surplus water for power at Pilot Knob is water that would be in the river anyhow, because it is surplus over and above other demands in the United States. It is simply a case of bypassing that surplus water, bringing it down and dropping it back into the river; but in order that we might not utilize this method of delivery to Mexico without approval, our All-American Canal contract proceeded, after the clause I read you—

The CHAIRMAN. Is your main hydroelectric plant at Pilot Knob?

Mr. Dowd. We hoped it would be.

The CHAIRMAN. Have you got one now?

Mr. Dowd. Two.

The CHAIRMAN. Where?

Mr. Dowd. At what we call drops 3 and 4.

The CHAIRMAN. Are they operating?

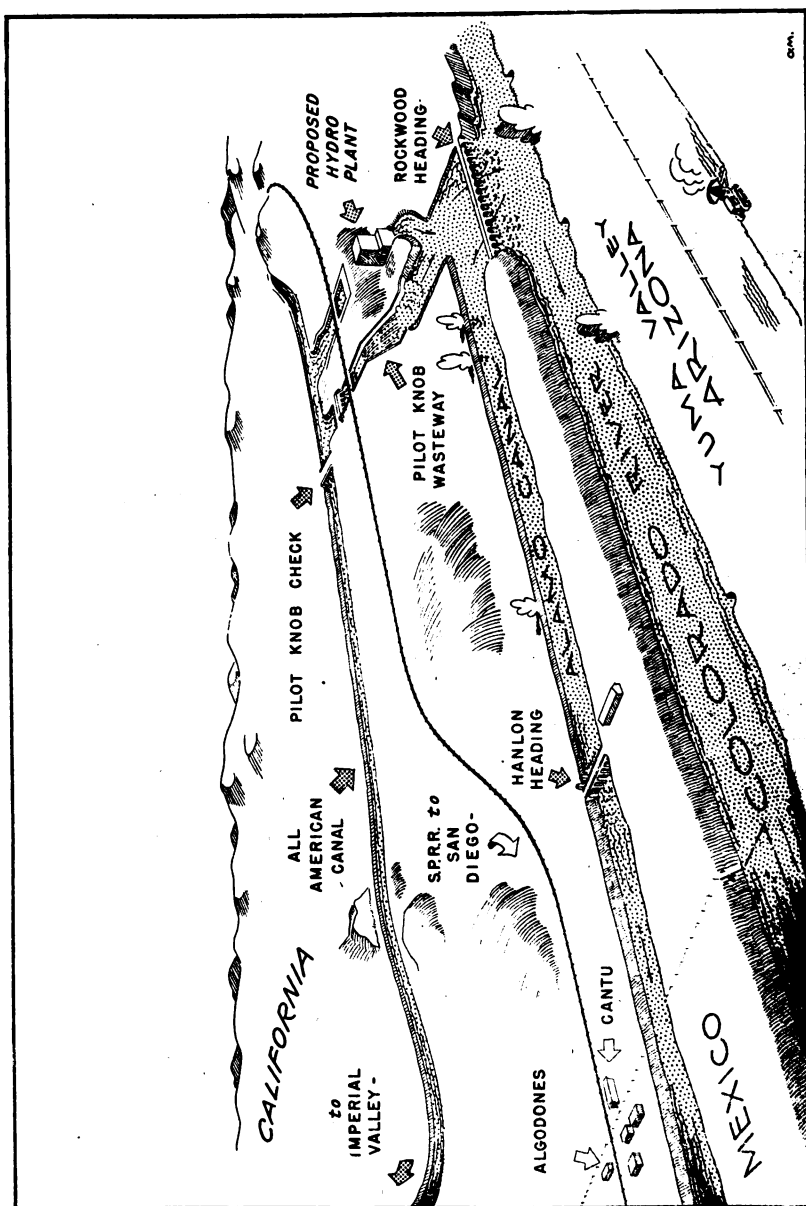
Mr. Dowd. Yes, sir; they are operating.

The CHAIRMAN. What is your revenue annually from those plants?

Mr. Dowd. I cannot tell you, because that is just part of our total power. I will give you our annual power revenue from all sources. You are getting me ahead of my story.

The CHAIRMAN. Go ahead with your story. Just wait until you get to it.

Senator McFARLAND. I do not know whether I am behind your story or ahead of it now, but do you recommend that the State Department ask you to reduce that delivery down to 750,000 acre-feet until this matter is settled?



Mr. Dowd. Absolutely. In other words, the seven States agreed with the State Department in 1942—

Senator McFARLAND. Did you ever make that recommendation to the State Department?

Mr. Dowd. We sent them this letter and this resolution asking them for their opinion. In verbal discussions with them we very strongly recommended that. We have consistently held that American facilities should not be used to increase the use in Mexico unless Mexico were willing to state that she would not use such fact against us in the future. Or if we were to make American facilities available for the use of Mexico, it was no more than fair that Mexico would not say later, "All right, you let me have additional water, and now you have got to continue." If tomorrow we are asked to do that, we would comply with the request.

I referred to the clause about our permission to divert to the full capacity of the All-American Canal when water was available; but in order that we should not misuse that, this was added:

Except as provided by article 21—

That is, delivery to other contractees—

Water shall not be diverted, transported, or carried by or through the works constructed hereunder for any agency other than the district, except by written consent of the Secretary.

In other words, not one drop of water that came down the All-American Canal and through the spillway or the power plant— not one drop of that water could we let go through the Alamo Canal into Mexico without the written consent of the Secretary of the Interior— which would mean, of course, the Secretary of State, because any matter like that is taken up with the Secretary of State. The control of the use of the All-American Canal in making deliveries to Mexico is completely in the hands of the United States, and we are glad it is there.

In other words, Mexico said, "Unless you use your facilities, unless you help me, I cannot use the water from the Colorado River."

What better evidence could we have, when Mexico of her own violation could not use this water, than that she relied on American works to increase her use? We thought, "Now, by George! Here is a chance to try it again." So we wrote to the Secretary of the Interior, stating the provisions of the contract, setting up the conditions that existed and having in mind the resolution of the Committee of Fourteen passed just a few months previously, in which they outlined the stipulations that should be secured from Mexico. We wrote and suggested that in view of this condition, water for Mexico be temporarily supplied through the All-American Canal. If the State Department had followed the recommendations of the seven States, of course Mexico would have been aware that it was only by use of American facilities that she could get water that she needed.

On May 11 I happened to be in Washington and I followed this letter through the Department of the Interior and through the State Department. There were conferences between them. On May 11 this letter was received from the Undersecretary of the Interior, Abe Fortas, written to Mr. Hewes, the president of our district:

The Secretary of the Interior has referred to me your letter of April 26 requesting consent of this Department for delivery of water through the All-American

Canal in an amount sufficient to enable the District to meet the demands for water in Lower California.

And we suggested a limit of 4,000 second-feet.

The CHAIRMAN. That letter states that you had requested that?

Mr. Dowd. Yes, sir; we had. Continuing the letter:

Full consideration has been given to your request and to pertinent factual data. The matter also has been the subject of full consultations with the Department of State, which is concerned with matters affecting the delivery of Colorado River waters to Mexico.

It is the conclusion of this Department, upon consideration of all pertinent factors, that the present situation does not warrant the use of the All-American Canal and the Pilot Knob Wasteway for deliveries of water to Mexico. Accordingly, I am impelled to deny your request.

No word of explanation at all as to why; but another chance—we claim another chance was missed to definitely get Mexico on record as to the facts.

The CHAIRMAN. You did, though—you are doing it now, are you not?

Mr. Dowd. No. That was 1943.

The CHAIRMAN. You are not sending any water out of the All-American Canal into the Alamo, now?

Mr. Dowd. Not now; no, sir.

The CHAIRMAN. Where did you get the water? You say you are giving them 1,000,000 plus?

Mr. Dowd. Out of the Colorado River.

The CHAIRMAN. You are getting it out of the river?

Mr. Dowd. Yes, sir.

The CHAIRMAN. By those wiers and dams?

Mr. Dowd. Yes, sir. This year, of course—and I am coming to that—this year, the All-American Canal was used for a short period. The one reason why we were able to get by in 1943 was that about that time there was an increase in the releases from Boulder Dam, and the flow did increase to where Mexico escaped a severe shortage. She did have some crop loss.

In April of this year a similar request was received from Mexico, in which, again, Mexico admitted that she was getting into a bad situation and unless she could get assistance from the United States, either by building a wier or getting water through the All-American Canal, that she was going to have a tremendous crop loss.

I was in Washington at the time, and, on May 4, under my signature, I wrote to the Secretary of the Interior, calling his attention to the situation down there, and again, to the clause in our contract, and then I said:

It is suggested that your consent be contingent upon the Government of Mexico agreeing to the following stipulations.

I would like to read you those stipulations.

Such use of the All-American Canal shall be for emergency periods during the year 1944 only. Such use of the All-American Canal will not be considered or claimed by Mexico as constituting a recognition by the United States of any right of Mexico in or to the waters or to the use of the waters of the Colorado River. Such use of the All-American Canal shall be available only when and to such extent as it does not interfere with the use of said canal and other facilities in the United States or for any other purposes as may be determined by the Secretary of the Interior of the United States. Such use of the All-American Canal shall not require the release of waters stored by Boulder Dam

or other conservation works on the Colorado River within the United States. Failure to make any delivery that may be requested shall not give rise to any claim, and any claim after such failure, should it occur, shall be waived.

The letter then said:

It is the desire of the District to cooperate to the fullest extent with Mexico in preventing loss of production on lands in Lower California, providing rights and interests in the United States are properly safeguarded. It is on this basis and on the assumption that the United States Government will also view the matter in a similar spirit that our request is submitted.

That was on May 4. On May 8 our Mexican company received a letter from the National Irrigation Commission of Mexico, withdrawing its previous letters, asking us to arrange for these things, and agreeing to pay the 25 cents, stating that it was taking the matter up directly with the United States Government.

On May 15 we had a reply from Secretary Ickes, acknowledging my letter of May 4, and stating that it was then receiving the careful consideration of his Department. On June 23, we had a letter from Secretary Ickes, turning down our request, "after full consultation with the State Department and with Mexican interests," and stating that by building a temporary weir sufficient water could be delivered to Mexico to meet their demands, and would not require the use of the All-American Canal, and that was the decision after consultation with the State Department. In other words, they were perfectly willing for us to go in there and put in the weir, by which we could divert any quantity of Mexican water without any control, without any stipulations, at all, but they were not willing to request Mexico to accept certain stipulations in order to use the All-American Canal. They were willing for us to go in, here—

The CHAIRMAN. Now, are you sure that was their motive, or was it that they did not want to establish a precedent of utilizing what you call "American installations" to get water to Mexico?

Mr. DOWD. I am coming to that. They did come to that, later.

The CHAIRMAN. Every time we ask you a question, you say you are coming to it.

Mr. DOWD. Well, you just asked me a question, Senator.

The CHAIRMAN. I would like you to answer one when we hit it.

Mr. DOWD. All right; I will answer that one, right now, then. I cannot tell you what the reason was.

The CHAIRMAN. But you did tell the reason?

Mr. DOWD. I told you my opinion.

The CHAIRMAN. You pretended to state what their motives were. That is the reason I asked you the question.

Mr. DOWD. Yes—my opinion of their motives.

The CHAIRMAN. Well, you say you do not know?

Mr. DOWD. In other words, by putting in the weir, of course, we could raise the water and get most any amount they wanted, but there would be no control of it. In other words, it would increase the use of water in Mexico without any agreement for it, whereas, if the All-American Canal were used, it would take an agreement.

Senator McFARLAND. How much were you going to charge them for taking it through the All-American Canal?

Mr. DOWD. They had agreed to pay 25 cents.

Senator McFARLAND. Twenty-five cents an acre-foot.

Mr. Dowd. That is right. I will come to that. We went back to Ickes and asked for a reconsideration; the matter had gotten worse. We also wired Secretary Hull, since he had been conferring with Secretary Ickes, and on July 17—in other words, our first request was made May 4, and on July 17 we had a telegram from Mr. Hull, stating—

The CHAIRMAN. What year? One of the Senators wants to know what year it is you are talking about, in July.

Mr. Dowd. 1944.

The CHAIRMAN. 1944?

Mr. Dowd. Yes, sir; this year. I described the conditions in 1943, when it wasn't used. Now, I have been describing 1944.

The CHAIRMAN. All right.

Mr. Dowd (reading):

In reference to your telegram of July 13, regarding the water supply problem of Mexicali Valley—

this is from Hull to our Board, Mr. Hewes, President of our Board—

I have today requested the Secretary of the Interior and he has agreed to authorize and instruct the Bureau of Reclamation to use the All-American Canal beginning immediately for delivery by that bureau of Colorado River water to Mexico during the present emergency only, and under such conditions, financial and otherwise, as the Department of State may negotiate with the Government of Mexico.

I shall appreciate the cooperation of the Imperial Irrigation District.

We had previously pointed out the fact that, to try to put the weir in the river, would consume a lot of time, and it could not be done in time to prevent the shortage; that in view of war conditions and the shortage of labor and material existing, that we could see no real reason for it, when, by using the All-American Canal, in a matter of a few hours we could get the supply of water through existing structures, to Mexico.

Senator MILLIKIN. Mr. Chairman.

The CHAIRMAN. Senator Millikin.

Senator MILLIKIN. So that your district was willing that American facilities be used for that purpose?

Mr. Dowd. Under the stipulations we had set out in that letter to Mr. Ickes; yes.

Senator MILLIKIN. And you requested permission for it?

Mr. Dowd. Yes; and for those stipulations, you see.

The CHAIRMAN. At so much an acre-foot?

Mr. Dowd. Yes, sir.

We met the next day with representatives of the Secretary of the Interior and of Secretary Hull, in Yuma, and arranged to let the water go through the Alamo canal down to Mexico. The Secretary was quite insistent though that all arrangements, financial and otherwise, would be made by the United States Government with the Mexican Government. We had no objection to the making of any arrangements such as securing the stipulations or the amounts of water or the times or anything like that, but we did feel however that the State Department was hardly the proper agency to deal with the financial situation. The All-American Canal was under contract with the Imperial irrigation district for the ultimate repayment of the entire cost. We felt that in a sense it was our canal, we were the one obligated for the cost and for any damages which might result from such

use. We could not see how the Secretary of State was in any position or had any right to say what should be the charge for the use of our facilities that had been contracted to us under terms of law and under terms of our contract.

Senator MILLIKIN. Mr. Chairman, may I ask a question, please?

The CHAIRMAN. Go ahead.

Senator MILLIKIN. What percentage of the costs of those facilities have you paid?

Mr. DOWD. We haven't paid for any yet.

Senator MILLIKIN. And you consider them yours?

Mr. DOWD. Absolutely; if a contract is worth anything. We have obligated ourselves to repay the entire cost of the All-American Canal, and payments are to start the year following the date the Secretary announces the canal completed. We are the ones responsible for the repayment of the canal. I may add that the cost of Imperial Dam and the All-American Canal, including Pilot Knob and those facilities, represents something like \$16,000,000, that we have obligated ourselves for.

The CHAIRMAN. You get the entire benefit out of it, do you not?

Mr. DOWD. How is that?

The CHAIRMAN. Imperial Valley gets all the benefit out of the All-American Canal, does it not?

Mr. DOWD. Up to this time the Imperial Valley and the Coachella Valley, yes—those that have bargained to pay for it.

The CHAIRMAN. Exactly. So while you are paying for it, you are getting value received, are you not?

Mr. DOWD. Yes.

The CHAIRMAN. You are getting value received?

Mr. DOWD. So far.

The CHAIRMAN. Well, so far?

Mr. DOWD. But we are the ones over the next 40 years that have to repay the entire cost. We cannot see where it is the right of the State Department to say what we should get for the use of our own facilities.

Senator McFARLAND. You were very anxious to deliver this water, were you not? You spent a lot of time up here in Washington trying to get permission to deliver water to Mexico?

Mr. DOWD. Why, certainly. It was a desperate situation down there. Thousands of acres were drying up. It was corresponding to the situation on the lower Rio Grande in the United States, and our Government spent considerable time getting Mexico to release water from some of its dams to take care of the lower Rio Grande. About the time that they arranged for use of the All-American Canal to do this, for Mexico, Mexico agreed to release certain water for the lower Rio Grande project.

The CHAIRMAN. Have you any idea how long it will take you to conclude?

Mr. DOWD. No, sir; it will take me another hour or so.

The CHAIRMAN. The committee, I think, will stand in recess then till 10:30 tomorrow, in this room.

(Whereupon, at 4:40 p. m., the committee recessed until 10:30 a. m., tomorrow, Tuesday, February 6, 1945.)

WATER TREATY WITH MEXICO

TUESDAY, FEBRUARY 6, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room, the Capitol, Senator Tom Connally (chairman) presiding.

Present: Senators Connally (chairman), Thomas of Utah, Tunnell, Johnson of California, La Follette, and Wiley.

Also present: Senators Downey, McFarland, Millikin, and Murdock.

The CHAIRMAN. Please come to order.

The chairman wants to make an observation at this point. The chairman has earnestly endeavored to be fair to California and to the California witnesses. It has come to his notice—I do not know the names of the individuals—but certain individuals identified with California have been complaining to the press and others that the chairman was not fair to California and I was not giving them enough time, showing bias in the matter of time, and so on; and so I want to apologize if I have created any such impression as that on anybody.

California has had now an entire week, beginning last Tuesday. I believe that makes a week. Except Saturday afternoon, California has had an entire week to present its witnesses. I noticed in the press last night that the Senate Military Affairs Committee considering this work or fight order, which I imagine may be not so important as this, but which is certainly of some importance, limited their hearings to certain times and limited each witness to 30 minutes. I have not undertaken to put any such limitation on witnesses as that; but, just for the sake of being able to make some sort of estimate of how long we are probably going to have to go on with this matter, and in order to look forward and to make some arrangements about the Easter recess, I thought I would ask each State to submit a list of its proposed witnesses and the probable time that they would consume, so that we can sort of do a little figuring here about this matter.

I hope the papers will make a note of what I have said about that. California has not only had a week, but it is not through yet. We are still trying to hear everybody that wants to testify and to give them plenty of time in which to exercise themselves.

Now, if anybody has any complaint—Senator Downey or any of the rest of you—with what the Chair is doing, I wish you would certainly make it in open session and not have it whispered around among the witnesses that the Chair is being unfair to them.

Senator DOWNEY. Mr. Senator, I am sure that I have made no complaint to any newspaper reporter.

The CHAIRMAN. I did not mean to imply that Senator had, but two different newspaper people have told me that they approached them with an able-bodied grouch on, and that I was not fair to them and was not giving California proper recognition.

Mr. Dowd. I was going to say that as far as the present speaker is concerned I have received most courteous treatment from this committee.

Senator DOWNEY. Mr. Chairman, of course, I would like to add this: It is unfortunate that at this crucial moment in legislative history California has had to intrude upon the Foreign Relations Committee this long, but we at least feel that this is a matter of such great and vital importance to the Southwest and likewise so involved and so complicated that we did have to take considerable time in introducing many witnesses.

The CHAIRMAN. I am not complaining. I have not objected to your taking the time. I have simply tried to expedite the hearings as much as possible, because there are five other States that have got to be heard, and if they should take any comparable time, we would be here a good long while. I am not trying to cut off anybody. I want to hear your claims fully and completely, but I would like to insist now that the head of each State's delegation prepare for me a list of the witnesses that you expect to produce and the approximate time they will consume.

Go ahead, Mr. Dowd.

STATEMENT OF M. J. DOWD, CONSULTING ENGINEER, IMPERIAL IRRIGATION DISTRICT—Resumed

Mr. Dowd. May I briefly summarize the points that I discussed yesterday. The first major point was that prior to the construction of Boulder Dam—

The CHAIRMAN. Well, are you simply going to repeat? What is the use?

Mr. Dowd. I am trying to summarize it and condense it into form here.

The CHAIRMAN. All right.

Mr. Dowd. (1) The low flow of the Colorado River had been over-appropriated; (2) the maximum use of 750,000 acre-feet in Mexico, which was approximated in only 2 years, was more than the dependable supply available to her; (3) Mexico had to depend upon diversion works located in the United States, because (a) the diversion of any substantial volume of water in Mexico would have violated the navigation provisions of the treaty of 1853, (b) every attempt to divert water in Mexico had proved unsuccessful due to changing and unstable conditions of the river channel, and (c) a diversion dam in the limitrophe section of the river was neither feasible nor could it have been constructed without the consent of the United States and, below the lower boundary, would have been of little if any benefit to Mexico; (4) in any event, construction of the All-American Canal would have reduced the dependable supply for Mexico to considerably less than 750,000 acre-feet.

The second major point was that with the construction of Boulder Dam and the All-American Canal (1) conditions during the past

several years have shown the dependence of Mexico upon facilities in the United States for a dependable water supply; (2) without this treaty Mexico could not solely by the use of her own facilities put to successful use any large, dependable quantity of Colorado River water, certainly not more than 750,000 acre-feet.

The third major point is that Mexico is the one requiring a treaty on the Colorado River, not the United States.

4. The claim that Imperial irrigation district is making a big profit out of the sale of water to Mexico is wholly unfounded. The district is making no profit.

5. The claim that Imperial irrigation district is interested in increasing the amount of water used in Mexico is untrue. The district has been a leader in the demand that Mexico be limited to her use from natural flow, and every effort to secure the cooperation of our State Department by the district and the seven Colorado River Basin States has been unsuccessful. If Mexico is today using 1,800,000 acre-feet—which we deny—it can be blamed on the State Department, as our correspondence proved.

6. The State Department and no one else has the right to dictate policies and conditions to govern the use of Imperial irrigation district's capacity in the All-American Canal for the benefit of Mexico, but the State Department does not have the right to disregard the district as to the financial arrangements for such use, because the latter is an internal and domestic affair.

I did not quite complete the matter of use of the All-American Canal to supply the temporary use in Mexico during 1944.

Senator TUNNELL. I would just like to ask one question: Did you put in the record yesterday—I was not here—anything about that navigation treaty?

Mr. Dowd. Yes, sir. I referred to it; I did not read the particular clauses governing it, but I referred to the fact that under the treaty of 1853 Mexico accepted the sole responsibility for the navigability of the Colorado River from the Gulf up to the California boundary, and that it has been held many times that there was no obligation on the United States within its own territory in anywise to protect navigation. In other words, Mexico did not reserve her own right to navigation. All she did was agree not to interfere with the possible navigation by United States citizens and vessels.

Senator TUNNELL. Then the United States would have a right to use all of the water down to the boundary?

Mr. Dowd. Under that treaty; yes, sir.

Senator TUNNELL. Under the treaty?

Mr. Dowd. Yes, sir. Of course, I am assuming now that treaties really do amount to something and that it still is a good treaty.

As I mentioned to you, regarding the use of the All-American Canal to supply Mexico, we started about July 19 or July 20, 1944, and although we were disregarded in the matter of financial arrangements, we did not stand in the way and took the water from the Pilot Knob spillway through the Alamo en route to Mexico. The orders were given by the Mexican company to the district, and the district ordered the amount of water through the All-American Canal. About September 11 the Mexican National Irrigation Commission notified our company that the use of the All-American Canal was no longer

necessary, as the reduced demand by that time could be diverted direct from the river, as it had been; so the district reduced the orders, and no longer after that date was any water taken through the All-American Canal for Mexico. It shows clearly that as a matter of fact it was the district that had to make the delivery of the water to Mexico.

The question of what Mexico is to pay has not been settled to date, and neither has the question of stipulations, although Secretary Ickes in answering the request of Secretary Hull to use the All-American Canal suggested almost the identical stipulations that we, the district, had suggested to him, and Secretary Hull said that he would protect the interests of the United States, but we have no further information on that.

Proceeding with the matter of investment in Mexico, records of the district show that it has invested approximately \$2,000,000 in works at Andrade.

The CHAIRMAN. Now, you have testified three times to that effect. I do not want to interrupt, but you explained you had \$2,000,000 in that Andrade and \$10,000,000 inside of Mexico in other works.

Mr. DOWD. No, sir; it is \$8,000,000 in Mexico.

The CHAIRMAN. Well, \$10,000,000 in all?

Mr. DOWD. Yes; \$10,000,000 in all.

The CHAIRMAN. Well, go ahead, if you think emphasizing it will help us any.

Mr. DOWD. Records of the district show that it has invested approximately \$2,000,000 in works at Andrade and, through its Mexican subsidiary company, about \$8,000,000 in river protective levees and canal system in Mexico, or \$10,000,000 for the benefit of Mexico. These figures, of course, are exclusive of all costs of operation and maintenance. To finance these investments the farmers of the Imperial Valley voted bonds against their lands, which they are now and for the next 40 years will be paying off with interest. In this connection, for many years our farmers paid over \$500,000 a year interest on these bonds, and although we were able to refinance the bonds a few years ago, we did not reduce the principal; we reduced the interest to about \$300,000 per year. The \$81,000 that we are getting for the use of the works at Andrade is a very small part of these past and present payments of interest alone which our farmers are making.

Prior to the completion of the All-American Canal, the Mexican Government never acknowledged any responsibility for, nor contributed to, the cost of the works in Mexico. I have already mentioned the contribution of the United States, which was a total loss. Prior to the completion of the All-American Canal the district, through its Mexican subsidiary company, started discussions with the Mexican Government relative to changes which would take place following completion of the canal. Without going into details of the many conferences which were held, it may be said that the Mexican Government asked the company to continue operating the canal system in Mexico for Mexican land. It recognized in principle the right of the company to the repayment of a proper proportion of the capital invested in river protection levees and canal system. It agreed to pay rental for the use of the district's diversion works in Andrade. It stated its desire to secure water service by means of the district's capacity in the All-American Canal down to Pilot Knob, and by

executive order it assumed responsibility for the maintenance of the protective levees. At no time was there any discussion as to quantity of water or as to Mexico's rights in water. Our district has never attempted to take care of anything but the matter of water service and the protection of this large investment which our farmers have in Mexico.

In order to determine the amount of capital investment to be repaid the company, the formation of a "valuation commission" was agreed to and respective appointments of the Mexican Government and company were made. However, the Government stated that any final settlement in regard to the payment for the protective levees would have to await and be dependent upon an international settlement between the Governments of Mexico and the United States, but in the meantime, pending such settlement, the company would be paid the rental for the use of its levees.

Furthermore, the Mexican Government fixed and has maintained the water charge collected from the water users in Mexico by the company at an amount sufficient to cover only operation and maintenance costs, with no allowance whatever for interest on or amortization of investments, depreciation or profit.

Since March 1922 all water for Imperial Valley has been supplied through the All-American Canal, the diversion works at Andrade and the canal system in Mexico being used to supply water for the lands in Mexico. However, to date, although the district's Mexican company has many times requested action, the Mexican Government has delayed settlement of all matters. The valuation commission has not yet functioned, and no payments on investments or of rental for protective works have been received by the company, and we noticed a very very marked cooling-off in the attitude of the Mexican Government as these treaty negotiations with the United States came more towards fruition.

While we were doing this, let it be said that we worked in very close relation with the International Boundary Commission of the United States. The conversations we carried on, in Mexico, naturally, were with the International Boundary Commission of that country, and with the National Irrigation Commission. We gave the American Commissioner copies of correspondence. We asked him for ideas. We did not want to do anything that might interfere with the control of the water, and so far as we could learn our discussions and our acts and our proposals met with the approval of the representatives of our State Department. We were led to believe that nothing would be done in this treaty that would injure us or that would prevent us from a just settlement of our just claims with Mexico. We do not feel that this has been done.

Repeatedly, in the conferences between the State Department and our seven States and with us, it was always understood that what they wanted at the time was a recommendation or an agreement on the amount of water that should go to Mexico, and we were told many times that before any treaty was concluded, the details of the treaty would be presented to and discussed with the representatives of the States; and that was not done.

We went to Salt Lake, January 25, 1944, and were told by the State Department that the treaty was all ready to sign, the way it was.

We were not asked for our opinion. There was nothing could be done about it.

The CHAIRMAN. Do you mean to say they did not consult with the representatives of these seven States at any time before that?

Mr. DOWD. I said, at the various conferences we had with the State Department, what we discussed was the amount of water. We did not discuss the other details of the treaty.

The CHAIRMAN. You just made the statement, though, a minute ago, that they promised to consult with the representatives of the States.

Mr. DOWD. As to the details of the treaty.

The CHAIRMAN. And that they had not done so?

Mr. DOWD. As to the details of the treaty; no, sir.

The CHAIRMAN. Isn't the matter of water one of the most important things connected with the treaty?

Mr. DOWD. Oh, naturally, that was one of the major points; the details would come later, they told us, and we would be given a chance to discuss them and go over them.

The CHAIRMAN. All right.

Mr. DOWD. We had a right to believe, I think, and we had a right to expect that before there was any definite commitment on the part of the United States, we down there who had so many interests and were so much involved in the situation would at least be given the courtesy of sitting down with the representatives of the Mexican Government and the representatives of the American Government and going over these mutual problems and see if some way could not be found to work them out satisfactorily to all concerned.

The matter of the waste water from Mexico to Salton Sea, that I will discuss a little later, this question of our investment in Mexico on levees and protective works, our investment at Andrade, the use of our capacity in the All-American Canal—certainly those were all things that should have been discussed with us; but not once prior to the completion of the treaty negotiations were we permitted to sit in and discuss those problems with the representatives of the two countries.

The CHAIRMAN. Well, you could consult our people, but you did not think you should be one of the parties to the international conferences between the two Governments?

Mr. DOWD. I did not say that.

The CHAIRMAN. Did you not have access to the American representatives, the State Department, and the Boundary Commission?

Mr. DOWD. Pardon me, Senator, I did not say that we should sit in on the negotiations.

The CHAIRMAN. You said, "sit in with the representatives of the two Governments and discuss it?"

Mr. DOWD. As to these problems.

The CHAIRMAN. Well, all right.

Mr. DOWD. As to these problems; yes.

The CHAIRMAN. Those problems were involved in the treaty. Did you expect to have three parties—the Mexican representatives, the United States representatives, and yourself or your district to sit in while they negotiated this treaty?

Mr. DOWD. No, sir; but we fully expected that we would have the right to discuss these mutual problems with the representatives of

the two Governments, not as a part of the treaty but to reach an understanding before the treaty was negotiated.

The CHAIRMAN. Well, that is the same thing. You had access at all times to the Boundary Commission and to the State Department, did you not?

Mr. DOWD. Yes.

The CHAIRMAN. That is the only contact you were entitled to? You were not entitled to attend an international conference?

Mr. DOWD. Well, if that is what you consider as fair treatment of the rights of Americans, sir, then that must be—

The CHAIRMAN. In an international arrangement, I think the representatives of the Government are supposed to be our representatives, and not a private corporation that is financially interested, up to its eyes, in the proposition. That is my view.

Mr. DOWD. I did not say we should negotiate any treaty. What I said was that we should have reached an understanding and had some agreement before the treaty was finally concluded which would preclude, we feel, a proper settlement of these problems.

The CHAIRMAN. All right. Go ahead.

Mr. DOWD. We feel that the good neighbor policy goes too far when it fails to protect the rights and investments of the people of the United States in Mexican properties, and not only does that but also it takes the power revenue granted to the citizens of this country by act of Congress and by formerly executed contracts and makes those revenues available to a foreign country.

The CHAIRMAN. How much? You promised to get that. How much power revenue does the district get a year?

Mr. DOWD. Our revenue per year? Our first distribution of power commenced in 1935, and these figures represent our gross sales.

The CHAIRMAN. I do not care for the whole history—just how much are you getting now a year?

Mr. DOWD. In 1943 power revenue was about \$1,100,000, and this year, about \$2,140,000. That is our gross revenue from retail sales of power. The records will show that as of December 31, 1944, we are about even with the board. In other words, from now on we hope, we fully expect that we will have net proceeds that can be used to apply on the canal. That has not been the case up to the end of 1944.

The CHAIRMAN. What did you do with that \$1,000,000?

Mr. DOWD. How is that?

The CHAIRMAN. What did you do with the \$1,000,000 you got in 1943?

Mr. DOWD. Paid for power, paid interest and amortization, on bonds, repaid other moneys.

The CHAIRMAN. Well, that is a useful purpose, is it not? You would have owed the bonds if you had not paid out of the revenues from the power?

Mr. DOWD. I said, sir, the record will show that as of the end of 1944, up to that time we had no net proceeds which we could apply on the payment of the All-American Canal.

The CHAIRMAN. I understand, but you were paying it on your district irrigation bonds, you say?

Mr. DOWD. No, sir.

The CHAIRMAN. What were you paying it on?

Mr. Dowd. Power bonds, bonds that we voted for power purposes exclusively.

The CHAIRMAN. Certainly.

Mr. Dowd. For operation and maintenance of the power system, for promotion and other expenses.

The CHAIRMAN. If you were paying off obligations that you had assumed, they were of some benefit, were they not?

Mr. Dowd. I did not say there were no benefits, sir.

The CHAIRMAN. I know you did not. I am asking you.

Mr. Dowd. It was a big benefit. We are creating a big, valuable asset there.

The CHAIRMAN. Certainly. That is what I am trying to get at.

Mr. Dowd. But there have been no net revenue so far with which we could make a payment on the All-American Canal.

The CHAIRMAN. I understand. You have been paying them on your own obligations?

Mr. Dowd. Certainly, we have been paying them on power obligations?

The CHAIRMAN. Well, that is net, isn't it?

Mr. Dowd. No, sir.

The CHAIRMAN. That is net?

Mr. Dowd. The net is——

The CHAIRMAN. I know what net is, but why isn't that net? You were paying on your own obligations. Isn't that a net profit when you pay off a debt?

Mr. Dowd. No, sir; not as I see it.

The CHAIRMAN. All right, go ahead.

Senator McFARLAND. Did you pay on principal or interest?

Mr. Dowd. Paying interest and principal on the bonds; but of course if that is all we can do with this power, if we can no more than make it carry its own cost and expenses there will be nothing then available from power revenue to help pay the cost of the canal.

Senator TUNNELL. What were the power bonds for?

Mr. Dowd. For building hydroplants, a Diesel plant, transmission lines, distribution lines, meters, and services, and for purchasing the properties of the local power company in the entire All-American Canal area.

Senator TUNNELL. Are they any good now?

Mr. Dowd. What?

Senator TUNNELL. Those facilities.

Mr. Dowd. Surely, they are good; they are being used.

Senator TUNNELL. And yet you say that is not on principal, when you pay those bonds?

Mr. Dowd. Sure, we are paying the principal of the bonds; yes, according to that; but there have been no net proceeds available to apply on the cost of the canal.

Senator TUNNELL. No; I understood you to say there was nothing to pay on the principal.

Senator McFARLAND. No.

Mr. Dowd. No, sir; there was nothing to pay on the canal.

The CHAIRMAN. The reason, I assume, is because you appropriated all of it to get your own private properties for the district, to pay off your final installments, and things of that kind?

Mr. Dowd. Of course.

The CHAIRMAN. There would be money to pay on the All-American Canal if you did not first use it, yourselves?

Mr. Dowd. Oh, sure, if we paid the power cost out of some other revenue.

The CHAIRMAN. Yes.

Mr. Dowd. That would be fine.

The CHAIRMAN. All right. Go ahead.

Mr. Dowd. That would be very beneficial to everybody.

The CHAIRMAN. You cannot eat it and have the cake, too?

Mr. Dowd. I now come down, if I may, to a short discussion, as to various features of the treaty itself, a few points in connection with the treaty from the viewpoint of an engineer, that I would like to have the committee consider. The first point is the third paragraph of article 2, which provides for a one-man commission in the United States and a one-man commission in Mexico. The Colorado and the Rio Grande are separated by a thousand or more miles. They are entirely dissimilar problems. We feel that in the first place, of course, the treaty should be separated, that there should be a separate treaty for each river.

We further feel that there should be one commissioner on the Colorado and one commissioner on the Rio Grande, or, better than that, there should be a commission of five men for each county. We feel that the responsibilities and the results of the rulings and findings and decisions of both Commissions as well as each respective section are too important to be left in the hands of one man. The next point, from an engineering standpoint, it would seem to me that instead of all of the decisions being subject only to the control of the Department of State, the treaty should be amended to make it possible for the important decisions to be subject to the control of Congress.

The CHAIRMAN. The Mexican Congress and our Congress, both, or just one?

Mr. Dowd. Respectively, sir. I only have reference to the United States, and I am not trying to dictate as to what Mexico shall do in regard to her own matters.

The third point comes in article 2, the fifth paragraph, on page 8. All the way through the treaty is the use of the words "two Governments," "the Government," "The United States," "the countries." They are very loosely used. They are used in a great many ways. They are not clearly defined, and we think the provision there in this article 2 that "neither section shall assume jurisdiction or control over works located within the limits of the country of the other without the express consent of the government of the latter" is quite dangerous. It is very difficult to know what that word "government" means in that connection. It would imply that with the permission of our Government, Mexico could come into the United States and control works within the United States. Now, we feel that should be carefully explained and defined as to what is meant by "government." We think of course it should not be done without the consent of Congress.

The next comment I have—I am jumping the Rio Grande altogether because while I feel there are points there that could readily be questioned that is another matter, and I go over to the Colorado River, which is the third section of the treaty, and starting in, in article 10.

Article 10-a—that of course is the “guaranteed annual quantity of 1,500,000 acre-feet.” We feel that the guaranty of a quantity of water such as that is wrong in principle. We feel that the sliding scale that was recommended by the 7 States in its El Paso resolution of 1942 follows Nature. No one guarantees that it is going to rain or snow in the United States. No one guarantees that the other water users are going to receive their quantity each year, and we can see no reason why that regardless of flow Mexico should be guaranteed such a quantity of water.

I call your attention to the fact that in the Rio Grande portion of the treaty there are no guaranties of fixed quantities except the 350,000 acre-feet from the Mexican tributaries, and that is not an annual guaranty, it is an average per year over a 5-year period. The rest of the allocations are simply percentages or certain various inflows of water. I will not go back over the discussion as to why we feel that the limit should be 750,000 acre-feet or about an equal percentage out of the low flow of the Colorado River. Mr. Elder has gone into the matter of why we feel that this 1,500,000 acre-feet really means, 1,700,000 to 1,750,000 acre-feet. Anyone who has operated an extensive canal system such as we have in Imperial Valley with several thousand miles of canals, or attempted to regulate a big river system such as the Colorado River, knows that you cannot regulate it down to a fine point; and, by all means, let me caution you against trying to allocate every drop of water in the river; it cannot be done; you will get into trouble. In order to deliver to Mexico a minimum of 1,500,000 you have always got to have some extra water for regulation, otherwise you will short her at times due to fluctuations. Even a heavy wind on a river such as the Colorado River would temporarily hold back the water and cause the water to fluctuate. We have found it that way in our big canals, so we say that it really means, and should be considered from that angle, as 1,700,000 to 1,750,000, instead of 1,500,000.

Senator McFARLAND. Well, on that, Mr. Dowd, that is because it would not be regulated. That is not because of having any duty to let any water down, is it?

Mr. Dowd. No; just naturally, we could not help it. If we fulfilled the obligation and delivered a minimum of 1,500,000, to do that it would mean we would have to figure that we would have to really release around 1,700,000 or 1,750,000.

Senator McFARLAND. In other words, you have sufficient confidence in whoever is going to administer this law, that they will not authorize an unreasonable surplus?

Mr. Dowd. I do not know. I am coming to that in just a moment. Let me call attention to the fact that we have no idea as to the possible future uses of water and its value. One illustration: In 1922, when the Sante Fe or Colorado River Compact was agreed to, at that time it appeared the ultimate possible transmountain diversion in the upper States out of the basin would not be over 500,000 or 600,000 acre-feet. They are now investigating, and from all accounts they expect to construct transmountain diversion of at least 2,000,000 acre-feet as compared to the estimate of say 500,000.

The CHAIRMAN. That will come out of the upper basin's quota; will it not?

Mr. Dowd. Yes, sir.

The CHAIRMAN. All right.

Mr. DOWD. Also, as of 1922, no one at that time conceived of a \$200,000,000 aqueduct taking Colorado River water to the metropolitan area of southern California, and less was it possible to conceive of this tremendous cost of the aqueduct running into several hundred millions of dollars, for taking water to central Arizona. The possibilities of use of the water and the value of that water is bound to increase as times goes on, and we should be very careful about throwing it to one side or giving it away with a waft of the hand.

I would like to point out there is no consideration given in the treaty to the use of underground water storage in Mexico that Mr. Elder has mentioned. It is quite possible for Mexico in developing that use of that storage to affect the flow in the river in the limitrophe section as well as affect the underground flow in the Yuma Valley. We feel that Mexico should be required to use and to account for any water that she pumps from the underground storage. It is the common practice in the West that such waters are considered as a part of the available waters of the basin. In the Phoenix area, as Senator McFarland has explained, vast quantities are pumped from the underground basin and used. In the San Joaquin Valley in California the same is true. In Coachella Valley, in California—

The CHAIRMAN. Just a minute. Will you please wait just a minute?

Mr. DOWD. I would like to finish my statement, that was all.

The CHAIRMAN. Well, go on. You are going to still finish it regardless of the Chair's interruption.

Mr. DOWD. Pardon me, sir.

The CHAIRMAN. So, go ahead, go ahead—you are in charge of the meeting. These wells are in Mexico that you are talking about, the subsurface wells?

Mr. DOWD. They will be; yes, sir.

The CHAIRMAN. And you think Mexico should account for the water she gets out of wells on her own territory?

Mr. DOWD. Yes, sir; its consumptive use. In the Coachella Valley—

Senator DOWNEY. May I intervene with a question? Mr. Dowd, that is because this underground water comes from the Colorado River Basin; does it not?

Mr. DOWD. It comes from the Colorado River. There is absolutely no other source it can come from.

Senator DOWNEY. In the event Mexico does begin pumping from these underground waters that very possibly could decrease the channel flow of the Colorado River in the United States; could it not?

Mr. DOWD. That is right; and the underground water in Yuma Valley.

Senator McFARLAND. Is there any provision in the treaty for that?

Mr. DOWD. Absolutely silent. In no way, shape, or form. As a matter of fact, Mexico is charged only with what she orders, in the Colorado River, not what she gets and uses; and if as we were discussing it is necessary to have some extra water for regulation or if the return flow is more than Mexico orders—if that should be the case Mexico will not be charged with it. She is only charged with what she orders, and her orders are fixed within the limits specified by treaty.

This underground storage was called to attention by the 1929-30 report of the International Water Commission. I will not read it. I will just refer to page 22, the third paragraph in House Document 359. So far as we know it has never been investigated. We called it to the attention of the State Department a number of times but they told us they had not time to investigate it, they had to conclude this treaty with Mexico right away. At one time they told us it had to be done within 2 weeks, they couldn't investigate these other possibilities.

Senator DOWNEY. Mr. Chairman, may I ask a question?

The CHAIRMAN. Senator Downey.

Senator DOWNEY. Mr. Dowd, what would be the most strategic way—that is, the way to get the greatest value out of the water if and when Mexico does resort to underground pumping? By that I mean at what periods would it be the wisest to draw upon this underground source?

Mr. Dowd. The best use that could be made of it I think would be during dry cycles. In other words, the basin would be allowed to accumulate water and fill up during wet cycle when there is a surplus of water. Then during dry cycles, why, when there would be a drop in the river flow, then Mexico could very easily pump this water and firm up the low flow. I am quite sure she intends to develop the underground basin, because in the past she has discussed the possibilities of getting as much as 10,000 horsepower from All-American Canal hydro plant for that purpose.

The next point I have is article 10 (b), where it provides that "any other quantities arriving at the Mexican points of diversion" are allotted to Mexico, although later on it provides she can gain no right to them. We feel that that may very readily build up a claim in Mexico from the use of those waters that later on might be hard to answer. We also feel, as I said, that Mexico should be charged with all water used, not just that ordered. We think it should be seriously considered whether the treaty should not make it clear that Mexico would use only the water that is set out in the treaty—that is, the allotted amount of 1,500,000 acre-feet—and not any additional.

Now I come to this other provision of article 10 (b).

Senator HAWKES. Mr. Chairman, may I ask a question?

The CHAIRMAN. Yes.

Senator HAWKES. To clarify the statement that you just made, when you said that Mexico should only be allowed to use the specific quantity of water, do you mean that she should not be allowed to put up a pumping system and use additional water?

Mr. Dowd. Well, that is not covered by the treaty.

Senator HAWKES. No; I understand it is not covered by the treaty, but at the same time it would lead to the building up of facilities, and so forth, which later on, if the pumping facilities failed, would be a very difficult situation. I just wanted to have you clarify that for my own benefit.

(A memorandum by the Committee of Sixteen, a resolution by the Imperial irrigation district, together with letters of transmittal and acknowledgment, referred to in his testimony yesterday, were presented for the record by Mr. Dowd, and are as follows:)

RESOLUTION

EL CENTRO, CALIF., *January 19, 1943.*

Whereas prior to the construction of the All-American Canal, the diversion works and facilities of Imperial irrigation district on the Colorado River at Andrade, Calif., were used for supplying all of the water required for irrigation and domestic purposes in the Imperial Valley of California and the Mexicali Valley of Lower California, Mexico; and

Whereas since the All-American Canal went into service in March 1942 all of the water for Imperial Valley has been supplied by and through said All-American Canal and said diversion works and other facilities of the district at Andrade have, accordingly, been used solely to supply water to the Mexicali Valley; and

Whereas this district has no knowledge of any existing treaty, contract, or understanding of any kind or nature between the United States and Mexico under which water from the Colorado River has been allocated to Mexico; and

Whereas by reason of the construction in the United States of Boulder Dam and other control facilities on the Colorado River, by which the floods of said river have been controlled and the flow of said river regulated, there will, for a number of years, be temporarily available for use in Mexico, pending development of additional uses in the United States, certain amounts of water which would not otherwise have been available to Mexico and which are in excess of the amounts of water used in Mexico from the natural flow of said river prior to the construction of Boulder Dam; and

Whereas the control of the floods of said river by the construction of said works in the United States also makes it possible for lands in Lower California, Mexico, to be put under irrigation which were not developed prior to the construction of said works and which could not have been developed in the absence of such flood control; and

Whereas it is a well-established fact that the total water supply of the Colorado River (all of which originates in the United States, none being contributed by Mexico) is insufficient to meet the demands of feasible projects in the United States, and as a consequence of that fact, any allowance of water to Mexico, must occasion the abandonment forever of projects in the United States, which otherwise could and would use such water; and

Whereas by the terms of the Colorado River compact and the Boulder Canyon Project Act, allocations of water have been made among the States of the Colorado River Basin in the United States, and contracts have been entered into between the United States and public and private agencies for the use of water and power made available by Boulder Dam and other facilities, constructed on the Colorado River in the United States; and

Whereas the water of the Colorado River represents the greatest single natural resource of the Southwest and of the seven States included in the Colorado River Basin of the United States, and because of the value and possibilities of this resource in the development and prosperity of this large area, it is a resource of national importance; and

Whereas because of these facts, it is of paramount importance that the interests of the States and the Nation in and to the waters of the Colorado River be protected in every way and to the greatest extent possible; and

Whereas, from information available, it appears to be quite likely that there will be a considerable increase in the demand for Colorado River water in Lower California, Mexico, in the year 1943, over and above the amounts of water used in Mexico from the natural flow of the river prior to the construction of Boulder Dam, and such increased demand, if granted, must be supplied by diversion works and other facilities located in the United States; and

Whereas in the event the use of facilities in the United States for delivery of water to Mexico is to be restricted or any other action is to be taken in connection therewith, then notice of such restriction or such action should be given to the potential users of water in Mexico prior to the preparation and seeding of their lands for crop and before water is ordered for the irrigation of said lands; and

Whereas in the Mexicali Valley the preparation of the ground for planting the 1943 crop, including usual irrigation before planting, will commence within the next few weeks; and

Whereas the Department of State represents the United States and is the agency by which treaties are negotiated and international policies of the United States are formulated; and

Whereas this district is desirous of acting in the best interests of the States of the Colorado River Basin and of the United States and in cooperation with said

Department of State and is also desirous of cooperating with the Government of Mexico and with the users of water in Mexico, supplied by and through facilities owned by said district, insofar as may be possible without adversely affecting interests in the United States: Now, therefore, be it

Resolved by the board of directors of Imperial irrigation district:

1. That the Department of State be, and it is hereby, respectfully requested to give this district its views relative to the use of facilities in the United States for the delivery of additional water from the Colorado River to Mexico, pending the making of a temporary agreement or a permanent treaty with Mexico in the premises.

2. That this district is, in particular, desirous of learning the views of said Department of State on the following subjects:

(a) Should facilities in the United States be used to deliver water from the Colorado River to Mexico during 1943 in excess of the amounts that would have been available to Mexico from the natural flow of said river during said year, had Boulder Dam not been constructed.

(b) Should such deliveries be limited to the average amount received by Mexico during the 10-year period prior to completion of Boulder Dam.

(c) Should such deliveries be limited to the maximum amount received by Mexico prior to completion of Boulder Dam.

(d) Should such deliveries be unlimited; that is, should all demands for water be met insofar as it is possible to do so.

(e) Should deliveries be made on some basis other than the foregoing.

(f) Should deliveries under any of the foregoing bases be made upon conditions. If so, what should be the conditions. How should they be made effective and by whom; be it further

Resolved, That, because of the imminent urgency at this matter, the Department of State is earnestly requested to make its views on the above subjects known to the district at a sufficiently early date to enable the district to carry out fairly and in due time its function of delivering water for use in Mexico; be it further

Resolved, That a certified copy of this resolution be transmitted to the Honorable Cordell Hull, Secretary of State; the Honorable Laurence Duggan, adviser on political relations, Department of State; the Honorable Lawrence M. Lawson, International Boundary Commissioner; the Honorable Clifford H. Stone, chairman, Interstate Committee of Sixteen of the Colorado River Basin; and to the Colorado River Board of California.

DEPARTMENT OF STATE,
Washington, February 4, 1943.

MR. G. L. DERMODY,
Assistant Secretary, Imperial Irrigation District,
Imperial, Calif.

MY DEAR MR. DERMODY: I have received your letter of January 22, 1943, with which you sent a copy of a resolution adopted by the board of directors of the Imperial irrigation district in reference to the problems involved in the delivery of Colorado River water to Mexico in the period that must elapse before the negotiation of a water treaty.

It is noted that copies of this resolution have been sent to Messrs. Duggan and Lawson for their information.

Pending further developments this Department perceives no objection to the continuation by the Imperial irrigation district of its past practices in the delivery of water to Mexico. In the meantime conferences in regard to this matter are being held with the Department of the Interior.

Sincerely yours,

CORDELL HULL.

IMPERIAL IRRIGATION DISTRICT,
El Centro, Calif., February 24, 1943.

HON. CORDELL HULL,
Secretary of State, Washington, D. C.

DEAR SIR: Your letter of February 4, in response to the resolution adopted by our board of directors under date of January 19, 1943, has been presented to our board. We thank you for the courtesy of your reply.

In view of the reference you make to "past practices" in the matter of delivery of water, we take it you mean that your Department has no objection to our district delivering whatever amount of water may be ordered by water users in Mexico, to the extent that the water is available in and can be diverted from the river to meet such orders.

May we assure you again of our desire to be helpful in any way we can. To this end we shall appreciate having the views of your Department from time to time relative to the matters involved in this problem.

Respectfully yours,

G. L. DERMODY, *Assistant Secretary.*

(There has been no reply to the above letter.)

The Committee of Sixteen of the Colorado River Basin States offers no objection to the United States making arrangements for and consenting to temporary delivery to Mexico of water of the Colorado River which from time to time may not be consumed in the United States, and which is conserved and made usable by Boulder Dam and other facilities in the United States and is in excess of the amount used in Mexico prior to the construction of Boulder Dam, subject, however, to the following conditions:

1. That the delivery of water to Mexico shall be consistent with the operation of Boulder Dam and other works in the United States for the several purposes for which they were constructed.

2. That the use in Mexico of water conserved and made usable by works in the United States which may not for the time being be used in the United States and therefore may be available for use in Mexico, and delivered pursuant to the notice mentioned in paragraph 5 hereof, shall not create a claim of right on the part of Mexico; and no recognition of such temporary delivery of water and the use of it in Mexico shall be given by either country as constituting a right or a basis of claim in negotiating a permanent treaty on the subject of allocation of water of the Colorado River to Mexico.

3. That any delivery of water, and the use of facilities as contemplated herein, shall be subject to applicable provisions of the Colorado River compact and the Boulder Canyon Project Act, as amended, and contracts made by the Secretary of the Interior thereunder.

4. That, in furtherance of the early consummation of a treaty with Mexico respecting the Colorado River, the arrangements herein mentioned shall not extend beyond the period ending December 31, 1943.

5. That the Department of State shall promptly give to Mexico appropriate notice of the conditions herein set out, upon which temporary delivery of water shall be made.

6. That the Department of State is requested to ask, and to advise Mexico that it has asked, the agencies, both public and private, which operate control facilities on the Colorado River to be guided by the conditions and principles set forth, in their operations and agreements with respect to water made available for or delivered to Mexico.

In the opinion of the committee it would be preferable that the express assent to Mexico to the principles and conditions above set forth be procured as a condition precedent to the temporary delivery of water to Mexico, and the committee requests that the Department of State give earnest consideration to the desirability of securing such assent. The committee, however, submits this opinion and request subject to the discretion of the Department of State.

Mr. DOWD. We think that the use of the underground storage should be provided for by the treaty, and that it should be carefully investigated from all angles to arrive at an estimate of what it should be.

Senator HAWKES. Thanks, very much. That is the point I wanted to bring out.

The CHAIRMAN. He did not answer your question as to pumping out of the river. He is talking about underground storage—

Senator HAWKES. But he says that he thinks the whole thing should be covered by treaty; and that is what I wanted to point out.

Mr. Dowd. The next clause is in article 10 (b)—

that in any year in which, as determined by the United States Section, there exists a surplus of waters of the Colorado River in excess of the amount necessary to supply users in the United States.

the United States will deliver an additional 200,000 acre-feet. We feel that the limit should be whatever Mexico has as a firm allotment. We do not believe that there should be any agreement on surplus. We feel that it will be used in a great many years, and when it is withheld from Mexico it may lead to a very grave international question.

I call your attention to the clause, "as determined by the United States Section." There is absolutely no definition or outline as to what should be considered in determining whether or not there is a surplus. We do not know. This treaty is in perpetuity. There is nothing to indicate that he shall take into account vested rights and contracts. We think it puts a very arbitrary power into the hands of the American Commissioner; and solely from an engineering standpoint and the standpoint of one who has handled the control of water, we feel that it is very dangerous.

Senator WILEY. How serious do you consider that subject; that is, the giving to Mexico of electric power that you have generated there to be used to pump subterranean waters in Mexico resulting from the waters of your river? Do you really consider that a serious angle of this controversy?

Mr. Dowd. If that were done, it would be; yes, sir. In other words, there is nothing in the treaty whereby, if that were done, the United States would gain anything by it.

Furthermore, if the power were given at cost there would be no "net proceeds" at all to apply to the cost of the canal in the first place; and the giving of that power to Mexico, or giving rights in that power to Mexico, is an absolutely direct violation of the Boulder Canyon Project Act and the contract that the United States has made with these agencies in connection with the canal.

Senator WILEY. You brought up the matter, which Senator Hawkes also referred to, of utilization not only of the power which would result in the decrease of your earnings in that respect but, after all, this is a water controversy. Have you any idea as to what amount of water might be taken from the United States by subterranean pumping in Mexico?

Mr. Dowd. No, sir. We have little idea of what the subterranean basin in Mexico may be. There have been a number of wells put down. Those wells have been very fine producers of water. From such of the few wells that have been put down it is known there is a very fine underground body of water there. But we do not know the extent of it. We do not know the thickness of the gravel and sand, water-bearing strata or other factors about it. All we know is that it is quite extensive and that over short periods of low flow of the river it can be used to very good advantage in supplementing the water used in Mexico.

Senator WILEY. But is there among engineers any consensus to the effect that the pumping of these waters might interfere with the utilization of a substantial amount of water in the United States?

Mr. Dowd. On that point, sir, what we mean by that is that if Mexico were to locate a series of pumps adjacent to the Colorado River, on the

Mexican side, between the California-Mexican boundary and the Arizona-Mexican boundary, pumping heavily on those wells would affect the flow of the river and would affect the return flow, which has been discussed, from the Yuma project in Arizona. The amount we do not know. As far as I know, there is no agreement; it has never been carefully considered; it has never been investigated as to what the possible condition might be.

The CHAIRMAN. Is that all below the diversions in the United States?

Mr. Dowd. Yes, sir; but if we are going to count return flow——

The CHAIRMAN. Well, you have answered the question.

Senator DOWNEY. May I intervene with a question?

The CHAIRMAN. Yes.

Senator DOWNEY. Mr. Dowd, as I understand your testimony, you are of the opinion that this treaty grants to Mexico only three classes of water: First, 1,500,000 acre-feet, the guaranteed quantity, and then an additional quantity of 200,000 acre-feet that you have been testifying about, and then only the right to use the water that reaches her boundaries. Is that correct?

Mr. Dowd. That is right.

Senator DOWNEY. Is that the impression of the treaty that you have gotten from your discussions with various engineers and representatives of the State Department?

Mr. Dowd. No. We have not discussed the treaty lately with the State Department, but prior to the treaty's being finally negotiated and signed we were told by a representative of the State Department that Mexico was insisting on 2,000,000 acre-feet and she would be shown how she could get it.

Senator DOWNEY. You do not think that there is any provision in the treaty that would give Mexico 1,500,000 acre-feet of guaranteed water and another 1,500,000 that she could acquire by use?

Mr. Dowd. I do not know what she could acquire by use, sir; but we feel that if Mexico is permitted to use all surplus water going down the river—for it says here that she is allotted water in other quantities—even though she has no right to it, it is there and can be used. If that is done over a long period of years, Mr. Carson said that 50 years from now there would be 5,000,000 acre-feet going into Mexico, it may become serious when we take the waters back and when her improvements must be abandoned and the people that depend upon them have to be removed.

Senator DOWNEY. You referred to some provision in the contract which you stated prevented Mexico or tended to prevent Mexico from acquiring any rights in the waters of the Colorado River by use.

Mr. Dowd. Any right to use over 1,500,000 acre-feet.

Senator DOWNEY. Suppose you read that clause.

Mr. Dowd (reading):

Mexico shall acquire no right beyond that provided by this subparagraph by the use of waters of the Colorado River system for any purpose whatsoever in excess of 1,500,000 acre-feet annually.

Senator DOWNEY. That does not say that she is guaranteed 1,500,000 acre-feet, does it?

Mr. Dowd. No sir; but I assume that that is what is intended.

Senator DOWNEY. Why do you assume that? Is the 1,500,000 acre-feet gained by use a guaranteed amount? Is not 1,500,000 acre-feet gained by use and 1,500,000 acre-feet guaranteed? Read it again.

Mr. Dowd (reading):

Mexico shall acquire no right beyond that provided by this subparagraph by the use of waters of the Colorado River system for any purpose whatsoever in excess of 1,500,000 acre-feet annually.

Senator DOWNEY. And now will you notice that where they use that expression, throughout otherwise they say the guaranteed annual amount of 1,500,000 acre-feet?

Mr. Dowd. That is true, sir.

Senator DOWNEY. But they do not use it in that expression, do they?

Mr. Dowd. If I were testifying as an attorney I would object very strongly to the loose language that is used in many places.

Senator DOWNEY. Is that language loose?

Mr. Dowd. It is subject to two or three interpretations.

Senator DOWNEY. But is it subject to any other interpretation than that Mexico can get up to 1,500,000 acre-feet by use? How is there any other possible interpretation? Can you tell me that?

Mr. Dowd. That is a legal matter that you and the other attorneys can answer.

Senator DOWNEY. You say you have formed the opinion from reading the treaty and from what has happened that Mexico is not given 1,500,000 acre-feet by standing use. On what do you base that?

Mr. Dowd. I said Mexico is given a guaranteed annual quantity of 1½ million acre-feet.

Senator DOWNEY. She is not given that by use; she is given that by the treaty?

Mr. Dowd. That is right.

Senator DOWNEY. And then she is given the right to use the waters that arrive at the boundary.

Mr. Dowd. Any other quantities arriving at the Mexican point of diversion.

Senator DOWNEY. And then later on is she not limited to another 1,500,000 by use?

Mr. Dowd. That "by use" applies to waters in excess of 1,500,000 acre-feet.

Senator DOWNEY. No. Read that clause again, please.

Mr. Dowd (reading):

Mexico shall acquire no right beyond that provided by this subparagraph by the use of waters of the Colorado River system for any purpose whatsoever in excess of 1,500,000 acre-feet annually.

Senator DOWNEY. That is, she can acquire up to 1,500,000 acre-feet by use. Is not that what it says? Does not that give her the right to acquire 1,500,000 acre-feet by use?

Mr. Dowd. She is guaranteed 1,500,000 acre-feet.

Senator DOWNEY. Is that the same 1,500,000 acre-feet?

Mr. Dowd. Whether it is or not, I would construe it to be a limit of 1½ million acre-feet according to the treaty. I do not think it will hold, though, if Mexico does use that amount over a period of 30 or 40 years.

Senator WILEY. You do not mean, now, that you are taking the position that over a period of 30 or 40 years the use by Mexico of water

would give her any legally enforceable right unless you give it to her by treaty, do you?

Mr. Dowd. What I maintain, sir, is that when we make a treaty by which Mexico can be delivered that amount of water, then over a period of 30 or 40 years she might develop a situation such that it would be very difficult for us to withdraw back to the 1,500,000 acre-feet.

Senator WILEY. You mean that there might be something in the treaty whereby we would be subject to probable arbitration on that matter?

Mr. Dowd. No, sir. I mean that in 1853 we made a treaty with Mexico in which she accepted certain obligations on the Colorado River. She now maintains that that is all "out of the window," that the treaty does not mean anything, that navigation is not being practiced, and therefore you can "throw it out of the window." If the same situation came up with reference to this treaty, and if the same principles were applied, she might say the same thing here. She might say that it was not exercised for all these years and that it does not mean anything.

Senator McFARLAND. It would be proper if she were limited to 750,000 acre-feet, would it not?

Mr. Dowd. Yes. There is a very serious question as to whether Mexico should agree not to use any more than she has been allotted by the treaty. Some people believe that that should be the limit.

Senator McFARLAND. You mean, you personally feel that even though the water is going down the river, and they have land there that needs the water, she should agree not to put the water on the land?

Mr. Dowd. There is a serious question whether that should not be the case.

Senator McFARLAND. Do you believe that that is a proper restriction to place on another country, that if water goes down that we cannot use, and we are letting it go down, you think we should ask that country not to use it?

Mr. Dowd. I am not clear in my own mind whether we should or not. It is something that should be carefully considered from the legal as well as the engineering standpoint.

Senator HAWKES. I would like to emphasize, Senator McFarland, that I have talked with a great many people out in that section, including your own State, and they feel that Mexico perhaps should be allowed to use that excess water that is going down there anyway, but there should be notice that she is using it at her own risk, and that it does not establish a prior right, so that she can come in and, through emotionalism and sentimentalism, say, "We have built up this facility and now the United States is going to force us to tear it down."

Senator McFARLAND. The treaty provides that she shall not have any right to any more than 1,500,000 acre-feet. How much more of a notice or what better notice could you give than that?

Senator WILEY. You heard the discussion. Senator Downey contends it is an additional right.

Senator DOWNEY. I think there is only one possible construction to be placed on the treaty, and that is 1,500,000 acre-feet guaranteed and

1,500,000 acre-feet additional quantity for use. This sentence would clearly indicate that:

Mexico shall acquire no right beyond that provided by this subparagraph by the use of waters of the Colorado River system for any purpose whatsoever in excess of 1,500,000 acre-feet annually.

We have been rather lured along to think that that means a guaranteed quantity. Throughout this treaty, in every other place, it says "guaranteed quantity" except at this one place. It is very certain that Mexico does not acquire that 1,500,000 acre-feet by use; she acquires it by this treaty, by this guaranty.

I want to direct your attention to this, Mr. Dowd. Do you not think that the sentence clearly and unequivocally gives Mexico the right to acquire 1,500,000 acre-feet by use? [Reading:]

Mexico shall acquire no right beyond that provided by this subparagraph by the use of the Colorado River system—

and I want to emphasize "by the use"—

for any purpose whatsoever in excess of 1,500,000 acre-feet annually.

I again ask you if any treaty could be more plain that Mexico is entitled to acquire 1,500,000 acre-feet by use.

Mr. Dowd. I can see your interpretation, and I can see where it could be argued that way, but that is a legal interpretation.

Senator DOWNEY. Let me ask you this. Would not even the most careless lawyer repeat in this particular place, "in excess of the guaranteed quantity of 1,500,000 acre-feet"? Why is that the only place from which it is omitted?

Mr. Dowd. I do not know, sir. It has occurred to us many times whether the language used here was the result of a careless handling of the language or whether it was deliberately used in the way it has been used. We just do not know.

Senator WILEY. What other points will you discuss, sir?

Mr. Dowd. I want to go on through with my comments on parts of the treaty, and then discuss return flow, and I am through.

You have had quite a discussion of the matter of extraordinary drought. Of course, we feel that the word "extraordinary" should go out.

It refers to serious accidents to the irrigation system. If I might show you why we do not think that covers the situation, it is because in all of the contracts with the United States there is provided this sentence:

The United States reserves the right to temporarily discontinue or reduce the amount of water to be delivered, for the purpose of investigation, inspection, maintenance, repairs, replacements, or installation of equipment and machinery—

and so forth.

The United States would give the district reasonable notice in advance of such temporary discontinuance or reduction. That is far broader.

In case of drought or serious accident to the irrigation system—it may be to the power system or something else. So we think it is not clear in that respect. We think it was taken from the 1906 Rio Grande treaty, without much consideration of the entirely different situation on

the Colorado River. There is just a hundred miles between the Elephant Butte and the boundary—

Senator WILEY. Are you suggesting clarification of the clause?

Mr. Dowd. I am not attempting to suggest the wording; I am simply calling attention to the point. It would be a matter of attorneys working out the actual legal language.

The statement was made here that the question of drought would be determined by the Bureau of Reclamation. Several witnesses made that claim. There is not anything in the treaty to lead one to believe that. As a matter of fact, it would not even be determined by the American section. It would be determined, according to the treaty as I read it, by the Commission itself. It would be an entirely different matter than if it were determined by the Bureau of Reclamation.

The clause "the same proportion of consumptive uses in the United States" means very little. It would be almost impossible to determine, and it carries no practical application. We feel, so far as we are concerned, that that language should be eliminated and that a clause be put in similar to the one which I read you from the All-American Canal contract. We would be in about the same position.

The next comment I have is with reference to article 12 (a):

Mexico shall construct at its expense, within a period of 5 years from the date of the entry into forces of this treaty, a main diversion structure below the point where the northernmost part of the international land-boundary line intersects the Colorado River.

We feel that the construction of any permanent dam in the river below the California boundary is at this time a very serious error. One of the reasons why is this. Our district had to move our diversion point, to get rid of the necessity of putting in a weir or any type of obstruction in the river. Mr. Ainsworth thought that the diversion structure was limited to a height such as to deliver water to the 1943 elevation of the Alamo canal; but I believe he was in error on that, because the reference to the diversion structure in no place fixes any limit as to what height Mexico may go in building it. The reference he made in the 1943 elevation was in the matter of delivering water through the All-American Canal. The Government says that in delivering water through the All-American Canal to Mexico it would be delivered at a height equivalent to the height of the water in the Alamo canal in 1943. But there is nothing in the treaty to limit the height of the permanent diversion dam which is provided for.

We feel that any obstruction in the river at this time, to do any good, would have to raise the river several feet. The sand would accumulate and raise the river upstream and make it dangerous in flash floods; also increase seepage and the danger of water-logging the adjoining areas.

It should be pointed out that if the dam is located below the Mexican boundary the United States has no control over the type of dam, as to the height of it, as to the construction of it, or as to its spillway capacity. It is only if Mexico should put the dam in the limitrophe section that the United States could control it.

It is true that the treaty says that simultaneously there shall be constructed river-protection works and drainage, but as to the type

of the dam, if it is built in Mexico, the United States has no say. No matter where the dam is located, the United States should have control.

By all means we believe the treaty is seriously in error in that it does not provide that this diversion dam should in no case be built until adequate flood-control storage is provided on the Gila River. We are still subject to floods of as much as 200,000 second-feet from the Gila River. I do not believe, myself, that in that flat delta, with no good foundation or abutment conditions, you can put in a diversion dam that will successfully withstand floods such as we have had out of the Gila River. I think that is a very bad error on the part of the treaty.

Furthermore we feel that the clause should read that when and if it becomes necessary, in the opinion of the American commissioner, for the fulfillment of the treaty obligations, a diversion dam be built. It may be necessary some day, but it may not be for 30 or 40 years; and in the meantime the river will have stabilized itself on down through from Boulder. But, before that, certainly we should not do anything to interfere with the river in channelizing itself. We should not do anything to increase the hazards from floods out of the Gila.

We think that the provision as contained in the treaty is entirely wrong.

I call your attention to the fact that there has never been a successful diversion dam on the Colorado River where rock abutments were not available. Nothing is known about the building of a diversion dam such as is proposed here, in Mexico. There has been very little, if any, investigation.

The next point I have is in article 14 (a), where Mexico is to pay a "proportion of the cost actually incurred in the construction of the Imperial Dam and the Imperial Dam-Pilot Knob section of the All-American Canal." That proportion is to be determined by the two governments, which means the two State Departments, and they are to take into consideration the proportionate uses of these facilities by the two countries.

There is no reference there to Laguna Dam, which is located about 4 miles below Imperial Dam.

I mentioned that the All-American Canal users' share of the cost of Laguna Dam was \$1,600,000. It is practically paid out now. We did at one time intend to make our diversion at that point, but later, on the advice of the Government, we moved upstream to a better point $4\frac{1}{2}$ miles to the Imperial Dam site, where there were better desilting facilities, and so forth. But we were not relieved of our obligations, because the Government maintained that the Laguna Dam was in reality a part of the Imperial Dam; that the river was stepped up in two dams instead of one. Yet Mexico now would come in and get the benefit of the All-American Canal and yet pay nothing toward the cost of Laguna Dam. That must be paid off by the users of Imperial.

Secondly, as I mentioned above, we were obligated, without expense to the Government, to provide the Yuma project, with a capacity in the All-American Canal of 2,000 second-feet from Imperial Dam to Siphon Drop, where the water is dropped back to the old Yuma canal and goes across the river to the Yuma Valley. That means that instead of the costs of the other users being a proportion

of the total capacity of the canal, they are based on the total capacity less 2,000 second-feet. There is no reason why Mexico, if she is going to use the canal under this treaty provision, should not pay her share of the 2,000 second-feet of capacity. There is no reason why we should pay for all the Yuma capacity and Mexico not share in the cost.

I mentioned also the fact that we are obligated to repay the entire cost of this canal, including 3,000 second-feet of excess capacity from Imperial Dam down to Pilot Knob. Under this treaty Mexico is to have a capacity not to exceed 2,000 second-feet. It is proposed that the State Department, or someone, will condemn our rights in the canal and in our proposed Pilot Knob plant, but only for 2,000 second-feet of capacity. That leaves a thousand second-feet of the 3,000 second-feet of excess capacity that Imperial will have to pay off, with no use at all for the thousand second-feet of capacity.

We say these things are grossly unfair and unjust to us and uncalled for.

All these inequities could have been eliminated if we could have sat down with those people and gone over the treaty before it was consummated in its final details.

"Cost actually incurred in construction"? What do they include? Do they include damages by seepage, and so forth? We think that there are other costs that should be included in the repayment by Mexico, in addition to costs "actually incurred in the construction of the works."

For instance, in our all-American canal contract, it provides:

Such cost shall include all expenses of whatsoever kind heretofore or hereafter incurred by the United States from the reclamation fund or the Colorado River Dam fund in connection with, growing out of, or resulting from the construction of said diversion dam, main canal, and appurtenant structures, including but not limited to the cost of labor, materials, equipment, engineering, legal work, superintendence, administration, overhead, any and all costs arising from operation and maintenance of said dam, main canal, and appurtenant structures prior to the time that said costs are assumed by the district, damage of all kinds and character, and rights-of-way as hereinafter provided.

It is unfair, then, to provide that Mexico shall share only in the "costs actually incurred in construction."

I shall not read the letter to you, but we have a letter from Secretary Hull in regard to the temporary use of the all-American canal by Mexico last year. He told us pointedly that the district would have nothing to say about whatever financial arrangements were made with Mexico for such use. You understand, of course, that the United States contracted for all of the capacity of this canal with users in the United States. We say that the United States has no right to come along now and violate those contracts, violate its word and good faith to the people of the United States.

That does not mean that there cannot be provision made for Mexico to receive water through the All-American Canal; but for the United States to disregard the previous commitments, its contractual obligations to the people it has contracted with, we claim is unjust.

Another factor that comes into this is that in effect you are penalizing the district because of its foresight in providing this extra capacity. If we had not contracted for that capacity, it could not have been put in the canal. The United States of itself had no right to do it. The Government had to get contracts securing repayment of

every cent of the cost before it could build the canal. Use of the excess capacity for power purposes is a part of our definite plan of repaying the cost of the canal to the United States. In effect, what the State Department is doing now under this treaty is to penalize the district because we had the foresight to put the surplus capacity into the canal.

Going to the next point, which is in article 14 (b), relating to a proportionate part of the total costs of maintenance and operation to be paid by Mexico, there again there is no reference to Laguna Dam. Laguna Dam must be operated and maintained, otherwise it will go out. If Laguna Dam should wash out, Imperial Dam would wash out. We are obligated to pay our share of the maintenance and operation of that dam. There is no reason why Mexico should not also be obligated to pay her share.

Furthermore, this section provides that Mexico shall pay her operation and maintenance cost on the basis of the amount of water delivered annually, while all of the All-American Canal contracts made by the Government with the users require that operation and maintenance costs be paid on the basis of capacity allotted and not on the amount of water.

Mexico in capacity requires far more for a certain annual quantity of water than do the agencies of the United States, so that on a basis of capacity she would pay far more on operation and maintenance than she would on a basis of annual use.

My next point is found in the same article, article 14 (b), but it is the second paragraph. It is the one where Mexico is given a right to share in the revenue from power developed at Pilot Knob if there are any net revenues to apply to the cost of the canal.

I have discussed at quite a little length the value of the Pilot Knob power site to the district, if we are permitted to build it, in its relation to other district plants on the All-American Canal. In other words, the other plants on the All-American Canal built and proposed to be built are dependent for their output on the demand for irrigation water, which is a minimum in the wintertime. It is about half of what the demand is in the summertime. On the other hand, the flow of the Colorado River will for many years be about equal all the year round; in fact, will be a little higher in the wintertime due to power demand. By building Pilot Knob, we will have water and available output in the wintertime to offset the decreased output of the plants west of the sand hills in the wintertime when the irrigation demand is low.

Furthermore, studies made by the Bureau of Reclamation have established the value of Pilot Knob as a peaking plant; in other words, to carry peak loads. We do not have to run a continuous large flow through that plant all the time. It is possible to store a considerable quantity of water in the section of the All-American Canal from Pilot Knob to drop No. 1—14 miles—and by taking a small amount of surplus and storing it in that section of the canal for, say 12 to 15 hours a day, the stored water can then be released through the Pilot Knob power plant during peak hours of the day.

In this short time I cannot give you a very good picture of the situation, you not being familiar with power operations, but, in other words, when you take away the Pilot Knob plant from the district you take away a tremendous value that we do not believe can be

compensated for in case of condemnation. Pilot Knob is the key plant of the district's whole power development. We now have plants at drop 3 and drop 4 on the canal; we have a Diesel plant for reserve; we have a contract for 15,000 kilowatts of power from Parker Dam; but the Pilot Knob plant would be the key plant of our district system——

Senator DOWNEY. Mr. Chairman——

Senator WILEY (presiding). Senator Downey.

Senator DOWNEY. Have you made it plain that the Pilot Knob plant has not yet been constructed?

Mr. Dowd. I am coming to that right now.

Senator DOWNEY. I beg your pardon.

Mr. Dowd. It was only in October 1943 that we finally reached an agreement with the local power company for its power properties. The plan has been to provide All-American power to the same area that uses All-American Canal water. The people in that area are obligated to pay the cost of the canal, and if we could make full utilization of their payments for water and power we felt we could stand the additional canal obligation on top of our already existing bonds.

We have gone ahead on that basis and have been preparing plans for the Pilot Knob plant based on preliminary plans made several years ago by the Bureau of Reclamation. As a matter of fact, the Bureau of Reclamation offered to build this plant several years ago if we would turn it over to them; but it is such a key plant in our own system and so peculiar to our own necessities of operation that we could not see our way clear to do that.

We applied to the War Production Board last September for permission to build this plant. We are very much in need of additional capacity. They went into the matter from all angles, and they agreed that the plant was necessary and that as a war measure it should be built. We went ahead and got permission of the War Manpower Commission for the necessary manpower to build it. We did not get the final O. K. from the War Production Board, and we found out that the State Department were objecting, not that we did not have the legal right to build the plant but simply because they did not like us to build it, evidently. I do not know what the outcome will be, but at least from last September to date we have not had approval from the War Production Board, and I do not know that we will get it.

Senator WILEY. Have you had any explanation from the State Department?

Mr. Dowd. No, sir. They never approach us on these matters, sir. They have never discussed it with us at any time.

Senator WILEY. Have you asked them?

Mr. Dowd. No, sir; not on this particular matter.

Senator WILEY. Why not?

Mr. Dowd. We were dealing with the War Production Board.

Senator WILEY. I understand, from what you have said, that you had the green light and then they interfered.

Mr. Dowd. That is right.

Senator WILEY. This is still a Government of, by, and for the people. You have a right to take it up with the State Department.

Mr. Dowd. The consideration we have received in other matters that we have taken to the State Department has not been such that—

Senator WILEY. You have not been backward about taking it up here for 2 days.

Mr. Dowd. No, sir; we have not been backward.

Senator HAWKES. I would like to ask another question as to whether the witness has any ideas of his own why the State Department turned this green light into a red light.

Mr. Dowd. Because they felt that we might use it as an argument against this treaty, against their giving Mexico these power rights, and they felt that if we were to complete the plant and they had to condemn it, they might have to pay more for it. They felt that if we were to have the right to build this plant, it would then show what the possibilities were and it might affect the whole situation.

Senator HAWKES. You did have the right, and they had the power to stop you through this agency?

Mr. Dowd. Yes; through an agency that was never set up for that purpose. The War Production Board was set up to decide whether or not a project was necessary, and whether or not materials and equipment could be spared and manpower could be spared for it. They were not set up to pull the chestnuts of another department out of the fire.

Of course, under the treaty there is no assurance that there will be any of "net revenue" from this plant. It all depends on the policy that may be adopted by the Bureau of Reclamation or the State Department in the disposal of power. We are very greatly in need of both the power and the net revenue.

I had several other points. I will skip those and jump over to just two more.

Article 27 of the treaty, on page 25, provides that until after the Davis Dam is built, or the major diversion structure, Mexico can come into the United States and reestablish a temporary weir at Andrade. We feel that that is against good engineering practice and principles. We were enjoined from putting in a weir there; why should we allow Mexico to come in and do it? Instead of having that provide that Mexico can do that, we suggest—my own suggestion is—that it should read that if the United States is prevented, for any reason, from carrying out the provisions of articles 10, 11, and 15 from the date of entry into force of this treaty, and so forth, then, in the meantime, Mexico may construct and operate. In other words, we would not want to see it impossible to carry out the provisions of the treaty. But we feel that if this water is to be carried through the All-American Canal for Mexico, it will have to be done this way [indicating]. Why should we subject adjoining areas to the danger of seepage and floods by raising the bed of the river as the weir would do? Why should we subject our areas to the dangers and other conditions I have talked to you about? Why we should make the weir definite and fixed, I do not know.

The last point I have is in regard to the protocol that was signed the other day, where it says that "such jurisdiction"—talking about the works that are used only partly for the carrying out of the treaty provisions—

shall be exercised, and such functions, including the construction, operation, and maintenance of the said works, shall be performed and carried out by the Federal agencies of that country which now or hereafter may be authorized by domestic law to construct, or to operate and maintain, such works.

We feel that that should be amended to provide that where there are local agencies now authorized by law or contract to operate and maintain these works, they should be permitted to do so.

In a nutshell, our feeling, insofar as the All-American Canal is concerned, is that all provisions regarding payment by Mexico and trying to fix its share of the cost of construction, operation, and maintenance should be eliminated and in its place should be simply a clause that Mexico should pay a reasonable cost for the delivery of this water to her by means of the All-American Canal. We feel that that can be worked out, rather than complicate the whole situation.

If you will just turn to this map [indicating], here I have shown the Imperial irrigation district, including the main canals and laterals, as it will appear when fully developed. Now, the east mesa and the west mesa are not yet developed. We are now operating a system of canals and drains of about 3,000 miles in length. Under the All-American Canal contract we are to take over the operation of the main canal system when it is completed. We are to deliver 2,000 second-feet at siphon drop, under orders of the Secretary of the Interior, to Yuma. We are to deliver San Diego water at the end of the west mesa canal. We are to deliver Coachella water as she orders it on the Coachella canal. It would be just a mere incident in the handling of this big irrigation system to make deliveries at Pilot Knob into the Alamo canal as might be ordered by the State Department.

As I pointed out to you yesterday, Hanlon heading is the real control gate for Mexico. It would not be a very great incident of this gigantic project for us to deliver into the Alamo canal at this point, either through the Pilot Knob spillway or the power plant, all the water the State Department might order for Mexico.

I can see how as a matter of international relations it might be that the State Department should own and operate the Hanlon head gate so as to control delivery to Mexico. But we can see no justifiable reason why the State Department should now break up our plans which have been formulated over the last quarter of a century and take away rights that have been granted to us by Congress in the All-American Canal.

I had quite a bit to say about return flow, but that was discussed pretty thoroughly by Mr. Elder. However, I want to point out one or two things. The estimates you had of return flow from the All-American Canal were 65,000 acre-feet. At the present time, the total return flow into the river, including All-American Canal seepage and return flow from the Bard area, which is the area of the Yuma project in California, that comes into the river near Yuma, totals 35,000 to 40,000 acre-feet. That is the total in-flow. In the last few years the All-American Canal has sealed up in very good shape. The loss has dropped year by year.

The outflow from the Yuma project at the lower boundary—return flow from seepage—has been somewhere around 60,000 to 70,000 acre-feet. So the total for the two areas has been something like 100,000 to

110,000 acre-feet. We have the feeling that with better application of water, those quantities will, if anything, decrease in the future rather than increase. So instead of having 135,000 acre-feet from Yuma and 65,000 acre-feet from the All-American Canal, or a total of 200,000 acre-feet, there should not be more than 100,000 acre-feet from the two sources.

The question of the amount of water that has to be used for irrigation is not well known. There is very little known about it. But experiments that are being made in California and other places would indicate that only a small amount of water need be applied in addition to what the plant requires to keep the salt moving down. In fact, some experiments indicate that if you apply 8 percent more than you need for the growth of the plant, that will be sufficient.

The estimate of 400,000 acre-feet from the Gila project, where the irrigation water must be pumped, we feel is entirely out of reason. We doubt that under the ultimate development there is any reason why there should be over 50,000 acre-feet from the Gila project. I might point out to you that the Gila project as now proposed consists of two units. One, the Yuma Mesa, the other being an area up along the Gila River. The return flow from the area along the Gila River will get back to the Colorado, but the return flow from the 60,000 acres on the Yuma Mesa, which slopes to the south, toward Sonora, will, we feel, go into Sonora or will appear in the river below the lower boundary and, therefore, not be credited to the United States.

We feel that the quality of water is very important. We do not believe that the United States with its good-neighbor policy, with the reluctance it has shown during the past several years to say or do anything which in the slightest might be taken offense at by Mexico, could in the future, in good faith and in good conscience, deliver to Mexico a lot of water she could not use, as a part of the water guaranteed under this treaty. I should like to point this out. I say it in all good spirit. It is hardly possible that Mr. Tipton would advocate any policy toward Mexico other than that she must accept whatever quality of water we give her, because there may come a time when the subject of quality of water may be a matter of court action between the upper and lower basins in the United States.

My last subject is the matter of drainage water—drainage into the Salton Sea.

Senator DOWNEY. Before you leave the last question, is it not true that as the amount of water coming out of Mead Lake decreases, automatically the salinity of the water increases in proportion to that?

Mr. DOWD. That is true; yes, sir.

Senator DOWNEY. That will very much change the factor of salinity in the future over the present?

Mr. DOWD. Yes. How much, of course, nobody knows. Estimates have been made, but, again, that is another subject. In fact, we are far from being in a position to know what kind of treaty to make with Mexico. There is a world of information that we shall have to obtain first.

Senator McFARLAND. As I understand it, your testimony is that you feel that all this water should be delivered through the All-American Canal?

Mr. DOWD. No, sir; not all of it.

Senator McFARLAND. How are you going to deliver the other unless you put in a dam?

Mr. Dowd. Below the lower boundary Mexico is now pumping. She is only taking at the present time around a million acre-feet through the Alamo canal. This would indicate she is pumping out down below around 700,000 or 800,000 acre-feet.

Senator McFARLAND. You say there is no way to measure that?

Mr. Dowd. That is right. She is already expanding the Alamo canal system to irrigate some of those lands in the lower delta that were irrigated by pumping. But it will be many years before we use our full capacity in the All-American Canal.

Senator McFARLAND. If it is all delivered through the All-American Canal, even though there is not but that 16,000 acres, as you call it, return flow, we could not get credit for that?

Mr. Dowd. Sixty thousand?

Senator McFARLAND. Sixty thousand.

Mr. Dowd. Oh, yes; absolutely.

Senator McFARLAND. How would you get credit for it?

Mr. Dowd. That is delivered to Mexico at the Sonora boundary.

Senator McFARLAND. How would she divert it?

Mr. Dowd. She now utilizes that water down in Mexico from the Yuma drainage pumping plants.

Senator McFARLAND. Then, you do advocate that same system of diversion or measurement to utilize return flow?

Mr. Dowd. Why, of course, sir. My point is that until such time as the use of return flow becomes a factor that we are going to have to rely on in delivering water to Mexico, there is no reason to block the Colorado River with a diversion dam.

Senator McFARLAND. I am just asking an engineering question now. How are you going to divert and get credit for that return flow?

Mr. Dowd. The time will come, sir, when a diversion dam somewhere below the California boundary may be necessary to get that out.

Senator McFARLAND. So you do advocate that a treaty should have a provision in regard to a diversion dam in order to capture that return flow?

Mr. Dowd. Yes. My statement was that instead of this treaty making it mandatory that Mexico must build a main diversion structure in 5 years, it should say that when and if necessary or as determined by the Commissioner it becomes necessary.

Senator McFARLAND. The Commission is composed of Mexican and United States members?

Mr. Dowd. That is right.

Senator McFARLAND. The Commission might say that it would never become necessary, because you could always deliver the required amount through the All-American Canal. You had better put it in there if you are going to be safe; had you not?

Mr. Dowd. Yes. I am not trying to give you the wording, naturally.

Senator McFARLAND. You would not attempt to leave it up to the Commission as to whether a dam should be built to recapture this return flow?

Mr. Dowd. The Commissioner. In other words, whenever it becomes necessary, according to the Commissioner—I mean the American Commissioner—

Senator McFARLAND. Oh, you are going to leave it up to the United States?

Mr. Dowd. Oh, yes.

Senator McFARLAND. I misunderstood you. You said "Commission" a little while ago.

Mr. Dowd. I did not speak very clearly, sir.

Senator McFARLAND. Then, suppose that Mexico does not want to build one.

Mr. Dowd. I would have the mandatory provision, just like it is, but instead of making it mandatory within 5 years, I would make it mandatory only upon proper notice, when it becomes necessary for the protection of land and property in the United States.

Senator McFARLAND. Well, it might never be necessary for the protection of land and property in the United States?

Mr. Dowd. No.

Senator McFARLAND. It might be necessary only to get credit for this return flow?

Mr. Dowd. My statement was for the protection of land in the United States, it should not be built until it is absolutely necessary to carry out treaty provisions.

Senator McFARLAND. Do you not think that it is a pretty good idea to start getting credit for this return flow and to have it from the beginning, rather than rely on something in the future? You have advocated here that we should not adopt this treaty because there might be established uses set up. I cannot conceive of any more indefinite proposition which Mexico could claim than that she had established a use to this that you are advocating now. It would be left to some future time.

Mr. Dowd. In the first place, trying to set this up to get benefit of return flow now means nothing. Under the treaty we are permitting Mexico to use all other waters reaching points of diversion. That little return flow does not amount to anything. It will not come into the picture for years. The fact that you may put in a diversion dam does not mean that you will try to account for those return flows now.

Senator McFARLAND. You said there are 110,000 acre-feet now?

Mr. Dowd. Yes.

Senator McFARLAND. That is not such a little item; that will irrigate quite a few acres of land?

Mr. Dowd. But it does not come into the picture now. It does not come into the picture in any way now.

Senator McFARLAND. Why?

Mr. Dowd. Because there is so much surplus water coming down the river, the return flow is not a factor. Until there is a very, very large increased use in the United States, the question of whether we get credit for the return flow is not going to be a factor in any way, shape, or form. As long as we have surplus water coming down the river, the amount of return flow makes no difference whatsoever.

Senator WILEY. All right. Hurry along. You were about to discuss the Salton Sea.

Mr. Dowd. As I mentioned yesterday, from a point about 30 miles south of the international boundary, or about the Volcano Lake levee location, northward, the land slopes to the Salton Sea, the Salton Sea being about 241 feet below sea level. It is the only outlet, it is the

only place, where the drainage, the waste, and the storm run-off waters for a very large area can flow and be handled. There is only one way in which water can get out of the Salton Sea, and that is by evaporation.

Since it is also the drainage basin for this large area served by the All-American Canal, we have proceeded to acquire rights to the properties in and around the Salton Sea. Our district has so far invested over a half million dollars in acquiring the rights around Salton Sea. Mexico has an area of possibly 125,000 to 150,000 acres that can drain to only one place, and that is the Salton Sea.

We feel that Mexico should not be permitted to waste her drainage waters and any excess waters she may use in reclaiming land or because of improper use of canal water, and so forth, into the Salton Sea, without restrictions. The limit that the sea can absorb is, of course, a certain quantity. If you put more water in the sea, it rises. At the present time it would appear that we are wasting a considerable amount of water into the Salton Sea. But as the All-American Canal is developing, and as there is better control of the water with elimination of silt from Boulder Dam to the All-American Canal, we realize that in the future there will not be anywhere near the amount of water wasted from the present area, but we must also consider the bringing into cultivation of 100,000 acres in the Coachella Valley and the bringing into cultivation of another 200,000 or so acres on the East and West Mesas of the Imperial Valley, all of which must drain into the Salton Sea.

For many years there is going to be surplus water going to Mexico under the treaty. She has a right to use all waters reaching her points of diversion. There is no limit upon what she may bring in and waste through her canal wasteways into the Salton Sea. The treaty is silent on that subject. We believe that it should be in some way accounted for and taken care of.

Senator McFARLAND. Is it physically possible for you to recapture those waters and use them on the other lands?

Mr. Dowd. Not from New River. We are now, from the Alamo River, using some water near Holtville and near Calipatria. We are intending to spend some \$300,000 or \$400,000 in building a different source of supply for the land at Calipatria, which has not been getting satisfactory water from the Alamo River because of poor quality. While we will continue to take it out near Holtville, we do not want salty drainage waters from Mexico coming down the Alamo River channel to be the supply for those lands.

Senator McFARLAND. Are there any waters coming down from that land now?

Mr. Dowd. For the land near Holtville, there is. We divert water into the Alamo River in order to provide a supply for them. The amount of drainage water is very small. But if Mexico is going to keep her land in cultivation, there has got to be a very large amount of drainage work done, and the drainage water from Mexican lands when combined with our own waste, will be salty and very undesirable to use for irrigation purposes.

Senator WILEY. How will you stop it—that is, the natural flow?

Mr. Dowd. It is not natural flow when it comes from the canal, sir. It would be a deliberate act if Mexico opened the waste gates in her canals and allowed the water to come in here. We do not think we can stop it, and for that reason we think there should be some agreement set up in the treaty to stop it. Mexico should accept a limit on quantity and also the payment of some proportion of our investment in providing this outlet for her water.

Senator McFARLAND. Senator Wiley, as I understood him, meant, How could Mexico stop it and irrigate that land?

Mr. Dowd. Mexico can't stop drainage water. Mexico can control the waste from her canals. There is no reason why American farmers should pay the entire cost of providing a drainage basin for Mexican lands.

I sincerely thank the committee for giving me all this time. I have really endeavored to condense and cut down my statement. It covers a multitude of subjects. These are matters that have grown up over the last quarter of a century. To our own people they are of tremendous importance. I only wish it were possible—I know it is not—for the committee to come out actually on the ground. I can give you only a very poor idea from these pictures and maps, and my words have conveyed too inadequately our ideas about these problems. If we had you on the ground and could show you these conditions through your own eyes and then explain to you the various matters we have been talking about, I am sure you would have an entirely different conception of this treaty. I certainly thank you for your consideration.

Senator WILEY. Thank you, Mr. Dowd.

The next witness is Harry W. Horton.

Mr. SWING. Mr. Chairman, may we call a 15-minute witness now? I think Mr. Horton could start his statement more consecutively after lunch.

Senator WILEY (presiding). All right.

Mr. SWING. Then, I present Mr. A. E. Chandler.

STATEMENT OF A. E. CHANDLER, SPECIAL COUNSEL, DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGELES, CALIF.

Mr. CHANDLER. Mr. Chairman and gentlemen of the committee, my name is A. E. Chandler. I appear here in behalf of the Department of Water and Power of the City of Los Angeles.

I have here a prepared statement, which is a legal opinion, and most of it is a memorandum prepared in November 1942, at the request of Mr. Duggan, of the State Department. It deals, first, with certain treaties; and then, second, with the legal point that Mexico is not entitled to use water of the Colorado River in excess of the amount of the natural flow thereof used by her prior to the operation of Boulder Canyon Reservoir.

I have two requests to make. First, since this is prepared, that I be allowed to file it; and, second, that it be printed in the record as if I had presented it in full here.

Senator WILEY. That is all right. It will be so ordered.

Mr. CHANDLER. Thank you.

I am an attorney of San Francisco, Calif., appearing here as special counsel for the Department of Water and Power of the City of Los

Angeles, against the ratification of the treaty. I have taken an active part in the study and solution of water-right problems for over 45 years. I was the first State engineer of Nevada, and later a member of the first Water Commission of California. I was admitted to practice law in Nevada in 1904, and have since been admitted to practice before the State and Federal courts in California and before the United States Supreme Court.

I was in charge of land and legal matters in the field for the United States Reclamation Service during its early years, 1905-09. While with the Service in 1909 I was sent to the Philippine Islands to draft a water code for them. While with the California Water Commission I was called to the Hawaiian Islands in 1916 on a similar errand. I have been a member of my present firm in San Francisco since October 1, 1919. My practice is confined to water rights and related problems of water development. At present I am special counsel for San Francisco in connection with its Tuolumne River water rights, for Pasadena in connection with its rights to underground waters in Raymond Basin, and for Los Angeles in connection with water-right problems in San Fernando Valley and in the Colorado River Basin.

At the meeting of the Committee of Fourteen at El Paso, October 26, 1942, I made a statement regarding the legal principles governing the storage of water in reservoirs and the release therefrom into streams for conveyance to points of diversion. Mr. Duggan, who was present as the representative of the Department of State, asked me to prepare a memorandum of the views then orally expressed by me and to send it to him in Washington for submission to the attorneys of the Department. The memorandum, prepared in accordance with Mr. Duggan's request, is as follows:

MEMORANDUM ON THE POINT THAT THERE IS NO ESTABLISHED PRINCIPLE OF INTERNATIONAL LAW WHICH WOULD JUSTIFY AN INTERNATIONAL COURT IN REFUSING TO ACCEPT THE PLAN FOR THE ALLOCATION OF THE WATERS OF THE COLORADO RIVER BETWEEN THE UNITED STATES AND MEXICO, SUBMITTED TO THE STATE DEPARTMENT BY THE COMMITTEE OF FOURTEEN UNDER DATE OF JUNE 20, 1942

(Prepared by A. E. Chandler, Balboa Building, San Francisco, special counsel, Department of Water and Power of Los Angeles, November 19, 1942)

From statements made at the meeting at El Paso, Tex., on October 26, 1942, between representatives of the Department of State and representatives of the Committee of Sixteen, it is understood that the Department is of the opinion that the plan, for the allocation of the waters of the Colorado River between the United States and Mexico, submitted to the Department by the Committee of Fourteen under date of June 20, 1942, is not in accord with established principles of international law. We present herein our reasons for contending that the opinion of the Department has no authoritative basis.

1. NEITHER OF THE TWO MEMORANDA DEALING WITH TREATIES RESPECTING INTERNATIONAL RIVERS GIVEN TO THE COMMITTEE OF FOURTEEN BY THE DEPARTMENT OF STATE PRESENTS ANY AUTHORITY IN OPPOSITION TO THE POINT HEREIN ADVANCED

The two memoranda referred to in the above caption are as follows:

1. Use of International Streams, by Green H. Hackworth, May 26, 1942, hereinafter referred to as the "Hackworth memo"; and
2. Memorandum of Precedents as to Equitable Distribution of International Waters, prepared by the United States section, International Boundary Commission, United States and Mexico, May 21, 1942, hereinafter referred to as "Commission's memo."

The memoranda do not disclose any decisions by international courts, but deal exclusively with instances of treaties regarding the allocation of the waters

of international streams and comments of text writers thereon. The treaties should not be accepted as rulings on international law any more than stipulated judgments, or agreements between parties, settling water-right controversies can be accepted as establishing water-right principles to be followed by the courts. In such settlements, matters of urgency and expediency often move one or both parties to the surrender of certain legal rights.

The memoranda freely admit the absence of fixed principles to govern the allocation of international waters. Both memoranda quote the following paragraph from the Nile commission's report, dated March 21, 1926, which was attached to the Nile agreement between Great Britain and Egypt dated May 4, 1929 (Hackworth memo, pp. 8, 9; Commission's memo, p. 2) :

"21. Precedents in this matter of water allocation are rare and practice varied and the commission is aware of no generally adopted code or standard practice upon which the settlement of a question of intercommunal water allocation might be based. Moreover there are in the present case special factors, historical, political, and technical, which might render inappropriate too strict an application of principles adopted elsewhere. The commission, having regard to the previous history of the question, the present position as regards development and the circumstances attending its own appointment, decided to approach its task with the object of devising a practical working arrangement which would respect the needs of established irrigation, while permitting such program of extension as might be feasible under present conditions and those of the near future, without at the same time compromising in any way the possibilities of the more distant future."

The Hackworth memo quotes extensively from *The Economic Uses of International Rivers* (1931), by Prof. H. A. Smith. At page 12 of the memo it is said

"In discussing the question of general principles governing the use of international rivers, Professor Smith states:

"So far as I am aware, there are no strictly international decisions touching the problems discussed in this book."

In the first paragraph of the Hackworth memo it is said:

"No one of these agreements adopts the early theory advanced by Attorney General Harmon of the right of a State to appropriate all of the water within its jurisdiction of a stream which passes from its territory to a subjacent State. On the contrary, the rights of the subjacent State are specifically recognized and protected by these agreements. This is particularly demonstrated in the agreement between Great Britain and Egypt with respect to the River Nile, wherein not only existing uses in Egypt are recognized but the right to further and more extensive uses is taken into account. The arrangement concluded between those Governments has been referred to as exemplary in character and as forming a valuable precedent. Likewise the convention between the United States and Great Britain with respect to the waters along the boundary between the United States and Canada is important as showing the modern trend with reference to the distribution of waters as between neighboring States, wherein the waters of the St. Mary and Milk Rivers are divided equally between the United States and Canada, notwithstanding the fact that most of the supply comes from sources within the United States and the combined flow of the two rivers is insufficient to meet all of the irrigation needs of the regions through which they pass."

As the Great Britain-Egypt agreement regarding the Nile and the United States-Great Britain convention regarding the St. Mary and Milk Rivers are set forth "as exemplary in character" and "as showing the modern trend," we deem them particularly worthy of comment herein.

A. The agreement of May 4, 1929, between Great Britain and Egypt recognizes the right of Egypt to the use of the waters of the Nile River as superior to those of the Sudan.

During the winter of 1901-2 Mr. Clarence T. Johnston, then Assistant Chief of Irrigation Investigations, United States Department of Agriculture, made a study of irrigation methods and laws in Egypt. His report was published under the title "Egyptian Irrigation" as Bulletin No. 130, Office of Experiment Station, United States Department of Agriculture. Regarding the regimen of the Nile Mr. Johnston reported as follows (Bulletin No. 130, pp. 20, 21) :

"Highwater of the White Nile appears during June and the flood does not recede until October. It furnishes a more uniform flow to the irrigators of Nubia and Egypt than any other tributary. It derives its supply from the heavy rain in the equatorial regions where it has its source. The high-water season of both the Blue Nile and the Atbara begins with July and ends with September. These

two streams furnish nearly all of the sediment which has built up the valley of the river in Egypt and maintained the fertility of the soil. The effect of the high water from all sources is felt at Cairo soon after the 1st of August, but owing to the demand for water in upper Egypt during the late summer and early fall months extreme high water does not reach Cairo until toward the end of September, when the basins have discharged into the river.

"While the Nile varies each year in discharge it is a singularly steady stream, and in this respect is unlike the rivers with which we are familiar. It has but one high-water season each year, and this begins and ends so regularly that irrigators know when to prepare for the flood."

At pages 22 and 23 of Bulletin No. 130, Mr. Johnston presents hydrographs of the Nile to show its regularity as contrasted with the irregularity of the Mississippi River and of the Missouri River. The hydrographs of the Nile show that the low-water period of the Nile at Assuan extends from January to July.

The following paragraph regarding the findings of the Nile commission, which were attached to the agreement between Great Britain and Egypt, is contained in both memoranda (Hackworth memo, p. 9; Commission's memo, p. 3):

"88. The commission's main findings may be summarized as follows:

"(i) The natural flow of the river should be reserved for the benefit of Egypt from the 19th January to the 15th July (at Sennar), subject to the pumping in the Sudan as defined below" (British Treaty Series No. 17 (1929), Cmd. 3348, pp. 203, 210-211, 229, 250).

Having in mind Mr. Johnston's description of the regimen of the Nile, it is apparent from the above-quoted finding that Egypt was given the full low-water flow of the Nile, other than certain pumping allowances to the Sudan.

In 1938, the Ministry of Public Works of Egypt published its physical department paper No. 35, entitled, "The Nile Basin" (vol. V), by H. E. Hurst, director general, physical department, and P. Phillips, director, hydrological service, physical department. The volume summarizes and discusses a large mass of hydrological material collected during the last 30 years (prior to 1938) mainly by the Sudan branch of the Egyptian irrigation service and the physical department. The following excerpts from pages 13 and 14 of the volume are presented to emphasize the facts (1) that the low flow of the Nile is used exclusively in Egypt, and (2) that the amount of floodwaters of the Nile running unused to the sea is in excess of the amount presently used in Egypt:

"The Sennar Reservoir¹ is filled according to an agreement between Egypt and the Sudan. Filling to the level which commands the canal takes place in the second half of July, corresponding to the middle fortnight of August in Egypt and the remainder of the filling takes place in November. After a certain date in January which may vary a little according to the natural water supply in the river, the Sudan is entirely confined to the water in its reservoir together with the small amount lifted from the river by pumps (p. 13).

* * * * *

The average quantity of water used annually for irrigation in Egypt during the period 1929-35 was about 39 by 10⁹ cubic meters,² while the average discharge of the river (1912-32) was 82 by 10⁹ cubic meters.³ Thus rather less than half the supply is at present used for irrigation and the remainder goes to sea. At the present time the area under cultivation in Egypt is about 5½ million feddans,⁴ while the maximum cultivable area is about 7 million feddans. The supply of water is therefore sufficient for the full development of Egypt, and for considerable extensions of cultivation in the Sudan, if it can be suitably regulated.

"All these developments however depend upon being able to store more and more of the excess floodwater for use at the time when the river is low, and also to some extent on the possibility of storing over a period of high years to meet the needs of low ones. It will probably never be possible to utilize the whole of the supply of the Nile for irrigation and so some of its waters will always flow to sea in floodtime, and probably also during the time of winter closure" (p. 14).

At page 65 of Bulletin No. 130, Mr. Johnston says: "Owing to the fact that the Government controls the diversion and division of water there is no litigation between irrigators as to water rights." It is clear from this statement that Egypt has not had to deal with any doctrine of water rights within its own bor-

¹ On the Blue Nile in Sudan.

² 31,617,600 acre-feet.

³ 66,478,100 acre-feet.

⁴ One feddan equals 1.038 acres.

(These footnotes are ours.)

ders. Owing to British influence in Egypt one would expect to find there at least some recognition of the common-law doctrine of riparian rights. Under that doctrine the Sudan would have been entitled to its correlative part of the low flow of the Nile. Instead, it has been limited practically to the use and storage of high waters only.

The concluding paragraph in the Commission's memo (p. 3) on this agreement is as follows:

"The effect of the agreement is to recognize and perpetuate the existing uses in both countries, but to subordinate the interests of the Sudan to those of Egypt as regards future development."

The Commission thus recognizes the subordination of rights of the Sudan to those of Egypt, but we think the subordination goes farther than the Commission states. We have shown that Egypt is given the low flow of the Nile. Using the terminology to which we are accustomed in the western United States, the agreement places Egypt in the position of the prior appropriator and places the Sudan in the position of the subsequent appropriator. That this subordination was fully considered is clear from the acknowledgment by Great Britain of "the natural and historical rights of Egypt in the waters of the Nile." (Hackworth memo, p. 8.)

The discussion of the Nile agreement, Great Britain and Egypt, May 4, 1929, in the Commission's memo is followed by the citation of four references (p. 3). The second is the Nile Water Agreement, by Pierre Crabitès, Foreign Affairs, volume 8 (1929), No. 1, pages 145-149. The author was at that time judge of the Cairo mixed tribunal on behalf of the United States. He was, therefore, in an unusually favorable position to write intelligently about the Nile agreement. At pages 148 and 149 of his article, he said:

"Clearly, then, the essence of the agreement is the safeguarding of what is described as the natural and historical rights of Egypt in the waters of the Nile." That stream has, from the dawn of history, been Egypt's river. * * * It [the agreement] contemplates that the Sudan shall be permitted to draw from the Nile such a quantity of water as will not impinge upon this traditional prerogative or infringe the "requirements of the agricultural extension of Egypt" (p. 147) * * *. It is, therefore, clear that while the world at large will applaud the statesmanship which has assured to the Egyptian fellah that the Nile will remain primarily his river and that the stream will be primarily dedicated to making his fields productive, the settlement in no sense furnishes a precedent for the Colorado or other problems. Political considerations have forced the Sudan to subordinate its interests to those of Egypt. The great legal problem which means so much to irrigation experts all over the western world has not been brought any nearer settlement by the Nile Waters Agreement. But Egypt's difficulties have been surmounted, at least for the moment. And that, not the creation of a world precedent, was the task which confronted London and Cairo" (p. 149).

From what has been said hereinabove, we submit that Judge Crabitès was well justified in concluding that "the settlement in no sense furnishes a precedent for the Colorado or other problems."

B. The agreements, noted in the two memoranda, between Great Britain and other countries having territory in the upper watershed of the Nile, uniformly recognize the rights of Egypt and the Sudan to the use of the waters of the Nile River as superior to those of such other countries.

Both memoranda set forth instances of agreements between Great Britain and other countries having territory in the upper watershed of the Nile. Such agreements are the subject of an excellent note entitled "Other Nile Agreements," at pages 3-5 of the Commission's memo. The note shows that each of such other countries subordinated its rights to the use of the waters of the Nile to those of Egypt and the Sudan. In the Italian note of December 20, 1925, the rights of Egypt and the Sudan are characterized as "prior hydraulic rights" (Commission's memo, p. 4).

The Commission concludes its note re Other Nile Agreements as follows (p. 5):

"It is evident that the result of all these agreements is to protect the existing uses in both upper and lower riparian countries, but is also very limiting on the possible extension of the use in the upper countries."

We again emphasize the fact that the rights of the upper countries are positively subordinated to those of Egypt and the Sudan. These two countries are given the status of prior appropriators.

C. By the convention between the United States and Great Britain respecting the waters of St. Mary and Milk Rivers, the United States secured an easement of sufficient importance to justify it in assenting to an equal division of the waters of the two rivers.

The Reclamation Act, under the provisions of which so many large irrigation projects have been built in the western United States, was signed June 17, 1902. Immediately thereafter, investigations were initiated throughout the Western States in search of feasible projects. One of the projects securing early study was the Milk River project in Montana. The following candid statement of the difficulties in the way of the project is taken from the Third Annual Report of the Reclamation Service, 1903-4, pages 291, 292:

"The investigation has brought out three methods of utilizing the water of St. Mary Basin: (1) By diverting St. Mary River to North Fork of Milk River, and allowing it to run through Canada to lower Milk River Valley in Montana; (2) by utilizing the waters on the eastern section of the Blackfeet Indian Reservation and on the lands immediately adjacent to the east; (3) by carrying the water from the head of St. Mary River across both the North Fork and South Fork of Milk River to Cutbank Creek, allowing it to flow down this and Marias River 100 miles or more, then taking it out of the Marias by a canal to Big Sandy Creek, a tributary of Milk River.

"The most feasible project is the one first mentioned, but there are a number of international questions connected with it that are likely to cause complications.

"The first difficulty arises from the fact that there is already a canal in Canadian territory diverting water from St. Mary River. This canal is located about 7 miles north of the international line, and is owned by the Canadian Northwest Irrigation Co., the total length of whose system is 200 miles, including laterals. The capacity of the canal, as originally designed, is 382 second-feet, but it is doubtful if the present construction can carry more than one-half of this quantity.

"The second difficulty is that after St. Mary River has been turned into Milk River water may be taken from the latter stream in Canada. Such a diversion is possible, and there is now being constructed a canal diverting water from the north side of Milk River in Canada about 12 miles below the junction of North and South Forks. The computed discharge is 330 second-feet. The general course of the canal follows the line of the Alberta Railroad Co. The water is to supplement the irrigation system from St. Mary River above described, and will irrigate lands in the vicinity of Lethbridge, Alberta, Canada.

"To thoroughly settle the question of water diversion from St. Mary River and Milk River it will probably be necessary to come to some international agreement with Canada. This country has the advantage of storage in St. Mary Lakes by the construction of the St. Mary Dam, in which the floodwaters of this stream can be conserved and afterward used for irrigation purposes. An agreement might be made with the Canadian Government to allow to pass down without diversion the water turned into Milk River, on condition that the Canadian canal from St. Mary River will be furnished sufficient water from the St. Mary Reservoir."

Negotiations aiming at a solution of the international problem confronting the Milk River project culminated in the convention signed January 11, 1909, by the United States and Great Britain. Regarding this convention, it is said, at pages 2 and 3 of the Hackworth memo:

"The principle of equal distribution and beneficial use is particularly exemplified in article VI, relating to the St. Mary and Milk Rivers. It states:

"* * * the St. Mary and Milk Rivers and their tributaries (in the State of Montana and the Provinces of Albert and Saskatchewan) are to be treated as one stream for the purposes of irrigation and power, and the waters thereof shall be apportioned equally between the two countries; but in making such equal apportionment more than half may be taken from one river and less than half from the other by either country so as to afford a more beneficial use to each." Ibid., 2610."

The Hackworth memo does not mention the great concession accorded the United States by Canada in permitting the United States to discharge water, stored by it in its reservoir on St. Mary River, into Milk River and to carry it therein for over 100 miles through Canada. The Commission's memo does refer to this great concession. In it, at page 11, it is said:

"Canada furnishes about one-fifth of the water of these two rivers, both of which originate within the United States territory, but the equal division of the waters was probably a quid pro quo for the concession made to the United States of the right to carry water, diverted from the St. Mary into the Milk, along the 130

miles the Milk River travels within Canadian territory before recrossing the boundary back into the United States."

The paragraphs quoted above from the Third Annual Report of the Reclamation Service are sufficient without further comment to convince the reader that "the equal division of the waters" was not probably, but definitely, "a quid pro quo for the concession." In view of this "quid pro quo," the convention cannot rightfully be held to be a particular exemplification of "the principle of equal distribution and beneficial use," as stated in the Hackworth memo. It is an instance of the bargaining process and nothing more.

It is important to note that the convention does not provide that any water should be furnished to Canada by the United States from its reservoir on St. Mary River, as suggested in the last paragraph of the above-quoted excerpt from the third annual report. Furthermore, it is a fact that no stored water has been furnished Canada or Canadian interests by the Bureau of Reclamation from its St. Mary's storage works.

II. MEXICO IS NOT ENTITLED TO USE THE WATER OF THE COLORADO RIVER IN EXCESS OF THE AMOUNT OF THE NATURAL FLOW THEREOF USED BY IT PRIOR TO THE OPERATION OF THE BOULDER CANYON RESERVOIR

A. The water stored in the Boulder Canyon Reservoir is the property of the United States.

The first section of the Boulder Canyon Project Act, under the provisions of which the Boulder Dam was constructed, is in part as follows:

"That for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters thereof for reclamation of public lands and other beneficial uses exclusively within the United States, and for the generation of electrical energy as a means of making the project herein authorized a self-supporting and financially solvent undertaking, the Secretary of the Interior, subject to the terms of the Colorado River compact hereinafter mentioned, is hereby authorized to construct, operate, and maintain a dam and incidental works in the main stream of the Colorado River at Black Canyon or Boulder Canyon * * *"

We emphasize the point that the act provides that the use of the water stored in the Boulder Canyon Reservoir shall be made "exclusively within the United States." That provision is in conformity with the uniformly accepted rule that stored water belongs to the storer. An excellent statement on the subject of natural and artificial flows is contained in the opening chapter of Wiel, *Water Rights in Western States* (3d ed., pp. 24-25, 34, 36, 37). At pages 24-25, it is said:

"The nature of the right of ownership existing in naturally running water is that of having it flow, of using it, and of taking it into possession by diverting it into artificial structures, ditches, reservoirs, cisterns, barrels, canals, pipes, and the like, thereby making private property of a part of it during the time it is held in possession and control. Being naturally a member of the 'negative community,' the law recognizes only a right to use or take of it, and to have it flow to the taker so that it may be used or taken (a usufructuary right); but when severed from the natural resource, so much of the substance as is actually taken is severed from the negative community and, passing under private possession and control, becomes private property during the period of possession and control. The corpus of the water severed from the stream in a reservoir or other artificial structure that confines it in control is private property as a commodity; it ceases to 'belong to the public' or to be taken without ownership, but is 'water with somewhat of a proprietary right.'"

In Kinney, *Irrigation and Water Rights* (2d ed.), section 846 (vol. 2, p. 1484), it is said:

"SEC. 846. *The right to the use of stored water.*—After water has been once stored in reservoirs, it becomes personal property, and may be sold, contracted for, and disposed of as such property. It is protected in such reservoirs by the statutes of the various States, providing that the stealing of water from a canal, ditch, or other works is a criminal offense, and also providing for the punishment therefor.

"Also, in the States which have advanced in the process of the construction of reservoirs for the storage of waters are to be found statutes regulating the distribution and the use of such waters. It is also provided that these stored waters

may be conducted down the natural streams to the place of use, under certain specific regulations and the supervision of the State officials. And while the water from the reservoir is passing down the stream it is provided that the head-gates of all ditches taken out of such stream may be closed temporarily until the stored water passes to the place of its intended use. All this must be done, however, without injury to the vested rights of those entitled to the use of the waters of the regular flow of the stream. And in taking out the artificial increase of the flow of the stream it is provided usually that due allowance must be made for seepage and evaporation."

In view of the uniform practice in the western United States of conducting water released from an upper reservoir down a natural stream to the place of use, it is unnecessary to cite further authorities in support of such practice. We do cite *United States v. Haga*, (276 Fed. 41), however, to show that the principle herein considered is not open to question. In the *Haga case*, in referring to water released from the Arrowrock Reservoir while flowing in the Boise River, it is said (276 Fed. 44) :

"If all water flowing in a natural channel is subject to appropriation, then water released from the Arrowrock Reservoir is subject to appropriation and diversion by a stranger the moment it is discharged from the reservoir into the river below to be carried down to the head of the plaintiff's canal; but no one would make such a contention. It is a familiar rule that an appropriator may utilize a natural channel for conveying his water, and may even dump his water into a running stream and take it out again lower down, so long as he does not interfere with existing rights."

B. Water released from storage in Boulder Canyon Reservoir which passes beyond the control of the United States is in legal contemplation abandoned personal property only.

Every large storage project constructed for either municipal or irrigation purposes requires a long period of years before all of the stored water can be put to beneficial use. Stored waters are now released from Boulder Canyon Reservoir for the generation of electric energy which are greatly in excess of the amounts presently required for municipal and irrigation purposes on projects which have either contracted for, or are designed to use, such stored water. This excess water is now flowing into Mexico and some of it has been used in Mexico. It is our contention that the use of such excess water by Mexico cannot become the proper basis of an equitable claim on the part of Mexico for its continuance. Such excess water flowing into Mexico represents personal property of the United States now being abandoned by it. There is clear distinction between the abandonment of a water right and the abandonment of the corpus of water. This principle is well exemplified by *Washington County I. D. v. Talbot* (55 Ida. 382, 43 Pac. (2d) 943, 946), wherein the Idaho court, in dealing with the right to waters stored in a reservoir, said :

"There is a distinction between a water right and the water itself after impounded. The former is the basic right to have the thing; the latter is the thing itself."

The abandonment by the United States in the present instance is of the corpus of the water only. The right upon which the United States relies for continuing the storage of Colorado River waters in the Boulder Canyon Reservoir is its paramount authority to build and operate reservoirs in the furtherance of navigation. Mexico cannot in good conscience object to such storage as it is greatly benefited by the flood protection afforded it by the operation of the reservoir.

C. The doctrine of estoppel may not be invoked by Mexico to sustain its probable position that it is entitled to the continued release of water from the Boulder Canyon Reservoir to furnish the quantity which it has presently put to beneficial use.

As Mexico has not, and cannot, interfere physically with diversions and storage of waters of the Colorado River in the United States, it cannot gain prescriptive rights against the United States. Likewise, it cannot invoke the doctrine of intervening of public use as that doctrine is based upon the invasion of the rights of the superior owner.

The doctrine of estoppel is a favorite shield used by inferior claimants when confronted with the loss of water previously, although temporarily, used by them. The doctrine was treated so adequately in the very early case, *Biddle Boggs v. Merced Mine Co.* (14 Cal. 279, 367 (1859)), that that case is still a leading authority on the subject. It is therein said (pp. 367, 368) :

"It is undoubtedly true that a party will, in many instances, be concluded by his declarations or conduct, which have influenced the conduct of another to his injury. The party is said, in such cases, to be estopped from denying the truth of his admissions. But to the application of this principle with respect to the title of property, it must appear, first, that the party making the admission by his declarations or conduct, was apprised of the true state of his own title; second, that he made the admission with the express intention to deceive, or with such careless and culpable negligence as to amount to constructive fraud; third, that the other party was not only destitute of all knowledge of the true state of the title, but of the means of acquiring such knowledge; and, fourth, that he relies directly upon such admission, and will be injured by allowing its truth to be disproved."

It is certain that in the present instance Mexico cannot show that it has been influenced to its injury by any declaration or conduct of the United States so as to satisfy the requirements of the above excerpt. It is beyond dispute that representatives of Mexico have for many years, and for a period long prior to the passage of the Boulder Canyon Project Act, kept in touch with the planning of proposed developments by the United States along the Colorado River. In fact, Mexico actually protested the building of the Boulder Dam. As stated above, that objection was not in good conscience, as Mexico had then so much to gain through the flood control afforded by the dam.

It is common practice for one person to serve notice of his superior rights upon a second person under conditions where the latter may later claim an estoppel against the former. This practice tends to obviate later discussions and litigation over the assertion of property rights. With this practice in mind the following resolution was adopted at a meeting of Colorado River Basin States held at Phoenix, Ariz., on June 23, 1938:

"Whereas the Boulder Canyon Project Act was by its terms adopted 'for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters thereof for reclamation of public lands and other beneficial uses exclusively within the United States': Therefore be it

"Resolved, That the Governors of the Seven Colorado River Basin States recommend to the appropriate officers of the Federal Government that they request such officers to give notice to the Government of the Republic of Mexico that in harmony with the policy so declared in the Boulder Canyon Project Act, it is the policy and purpose of the Government of the United States of America to reserve for use within the boundaries of the United States of America all waters of the Colorado River which may be stored or impounded therein to the end that the Government of the United States of Mexico, the citizens of that republic, and the owners of Mexican lands may have direct and timely notice and warning that the use by them of any of such waters as may temporarily flow into Mexico shall establish no right, legal or moral, to the continued use of such waters."

As contended herein, we do not believe that there is any basis for the claim of estoppel in the present instance. We do think, however, that a notice, along the lines of the above-quoted resolution, is in keeping with good neighborliness between the two nations.

D. Even under the doctrine of equitable apportionment of benefits, Mexico cannot be held to have the right, as against the United States, to water released from storage in Boulder Canyon Reservoir.

Conceding for the purpose of the argument contained in this subdivision D only, that the doctrine of equitable apportionment of benefits may be applied between nations, nevertheless Mexico cannot be held to have the right, as against the United States, to water released from storage in Boulder Canyon Reservoir.

Any right (other than contractual) to the use of the water of a stream attaches to the natural flow only. To borrow an expression from Wiel (*Water Rights in the Western States*, 2d ed., p. 14), such rights relate to "the usufruct of the natural resource." It is due entirely to the existence of a natural resource common to two countries, that either country may be held to have a right therein.

We have shown hereinabove that water stored by the United States in Boulder Canyon Reservoir is the property of the United States. It continues to remain the property of the United States when released into the river just as long as the United States has any use for it. When it passes the last point of diversion in the United States, it is then abandoned by the United States and any of it passing into Mexico may be used therein. To repeat, this abandonment

is not the abandonment of a water right, but merely an abandonment of specific portions of water—the very particles which are discharged or have escaped from control.

It may be argued that the view herein expressed deprives Mexico of making any use of its equitable apportionment of the floodwaters of the Colorado River. The answer is that Mexico has no storage sites for such floodwaters. If the floods were allowed to flow into Mexico, they would not only do great damage in the delta in Mexico but would be wasted into the sea. In *Eden Irrigation Co. v. District Court* (61 Utah 103, 211 Pac. 957, 961), the following noteworthy statement is made regarding the waste of water:

“Let it be remembered that no one can acquire a vested right to waste water in any form. In this arid country, water is life and may not be wasted.”

The above statement of principle is one which should apply as between nations as well as between water-right claimants in this country.

It, of course, cannot be seriously contended that Mexico is entitled to the use of storage works built by the United States within the United States. Each nation must necessarily be supreme within its own borders, and one cannot exercise the right of eminent domain within the other. There is no way for one nation to acquire property rights in another except by agreements, as was done in the case of the Milk River project. No international court can deprive one nation of its property rights in order to further the development of another nation.

III. CONCLUSION

There is no decision of an international court dealing with the apportionment of international waters which can be held to have established a principle which is contravened by the plan, for the allocation of the waters of the Colorado River between the United States and Mexico, submitted to the State Department by the Committee of Fourteen under date of June 20, 1942.

The agreements respecting international rivers which are discussed in the Hackworth memo and the Commission's memo cannot be considered as precedents. Certain of them, like the Milk River agreement between the United States and Great Britain, involve factors which could not be determined by an international court. Others, like the Nile agreement between Great Britain and Egypt, rest upon what we term the doctrine of prior appropriation.

The point we are particularly desirous of pressing upon the Department is that it has failed to recognize that the increased use of water by Mexico in years since the operation of the Boulder Canyon Reservoir has been made possible by (1) the release of water from storage in said reservoir which is in excess of the present needs for municipal and irrigation purposes on the projects in the United States, and (2) the irrigation of land in the delta in Mexico formerly inundated by the flood flows and now protected from that menace by the storage of flood flows in said reservoir. The flood protection will be afforded Mexico down through the years at no expense to it, but the situation is very different in respect of the present excess of water released from storage. That water will be required ultimately for use on projects in the United States which have either contracted for, or are designed to use, all of the water stored in the reservoir. That stored water is the property of the United States, and Mexico is not entitled to any part of it. The agreements noted in the two memoranda deal exclusively with the natural flow of streams. No one of them involves the release of water from storage.¹ We contend that as such stored water is the private property of the storing nation, an international court cannot allot any part of it to another nation.

In the present instance, Mexico can make no concession to the United States. The opportunity for such is all the other way. As hereinabove stated, the United States has already greatly benefited Mexico by affording it flood protection by the storage of flood waters in Boulder Canyon Reservoir. Further, for the full use of water allotted to it, Mexico must secure the right from the United States to maintain diversion works therein. This is a real property right which cannot be adjudged to Mexico by an international court. It is a concession which can

¹ Note added February 3, 1945: This expression should be limited to the original determination of the amount of water to be allowed the lower nation. The 1906 Rio Grande Treaty (United States and Mexico) recognized the early use of water in Mexico to the extent of 60,000 acre-feet per year. As that amount of water was not available every year during the irrigation season, the treaty provided that its terms should not be effective until after the completion of a reservoir near Engle, N. Mex. (the Elephant Butte Reservoir), to care for the necessary regulation of the stream.

only be obtained by agreement, just as the United States secured the right to run water, released from storage in its St. Mary River Reservoir, through the Milk River in Canada. Another example of this is the action of Mexico in requiring the private corporation which constructed the Imperial Valley irrigation system, to procure a "concession" authorizing the use of that part of the system which passed through Mexico. The "concession" (acquired by a Mexican corporation created for the purpose) required delivery to Mexican lands, when demanded, of one-half of the water being transported through Mexico. (See p. 16 of Memorandum on Behalf of the Committee of Fourteen, dated July 27, 1942.)

As to an allotment of part of the natural flood flow, Mexico has no reservoir sites for the storage thereof. So far as Mexico is concerned, flood flows constitute a menace. So far as conservation is concerned, flood flows passing into Mexico are wasted into the sea.

For the reasons set forth herein, we contend that the State Department is not justified in its present position regarding the plan submitted by the Committee of Fourteen under date of June 20, 1942. We ask that we be given a full opportunity to discuss the present issue with representatives of the Department.

Early in 1943 I was asked to go to Washington to discuss the foregoing memorandum with Mr. Hackworth, counsel for the State Department. It was finally arranged to have at least one representative of each of the seven Colorado River States present at the conference with Mr. Hackworth. It was held in Washington on March 29, 1943. No one present at the conference disputed any of the points made in the memorandum. Mr. Hackworth then agreed that the conditions existing in the Colorado River delta in Mexico to be considered were those present as of the date of the building of Boulder Dam.

I am not trying to hold Mr. Hackworth to the view then expressed by him. He has the right to change his position from time to time. I refer to the matter now to point a legal principle well established but ignored by the State Department at this hearing. At the time of our conference in March 1943, Mr. Hackworth did not understand the physical situation existing in the Mexican delta. He thought that Mexico might be able to use water during the flood season and thus be injured by the operation of Boulder Dam. This committee knows that the floods were an actual menace to Mexico, and that she has been greatly benefited by the storage of floods in Lake Mead.

Ignoring, for the purpose of this argument only, the international questions, under proper set-ups of law and fact Mr. Hackworth was right in his suggestion that a lower owner might have a just grievance against an upper owner who stores the flood waters of a stream. We have many cases in the Western States wherein lower riparians were successful in enjoining the storage by an upper appropriator of any part of the floodwaters of a stream. The outstanding ones are: *Miller & Lux v. Madera C. & I. Co.*, 155 Cal. 59, 99 Pac. 502 (1909); *Herminghaus v. Southern Cal. Ed. Co.*, 200 Cal. 81, 252 Pac. 607 (1926); *Still v. Palouse I. & P. Co.*, 64 Wash. 606, 117 Pac. 466 (1911); *Longmire v. Yakima A. I & L. Co.*, 95 Wash. 302, 163 Pac. 782 (1917); *Eastern Ore. L. Co. v. Willow River L. & I. Co.*, 201 Fed 203 (1912).

At the time the above-cited cases were decided, the riparian doctrine was recognized in the three States—California, Oregon, and Washington—to such a degree that a riparian could not be restricted to any degree of reasonableness when in conflict with an appropriator. (Fortunately for progress in conservation, that rule no longer applies in any one of the three States.) In each of the cited cases, it was held that the flooding of the lower riparian lands was of benefit as the lands were not only irrigated but fertilized through the deposition of silt.

Supposing for the purpose of this argument only that Mexico could successfully assert riparian rights—which we deny—she could not bring herself within the doctrine of the cited cases as she must concede that the flood of the Colorado River were a menace to her and that her position has been materially improved by the impounding of flood waters in Lake Mead.

The point we wish to emphasize in regard to the cited cases is that a lower owner must rest his case on the conditions of natural flow only—whether that natural flow be at times of floods or the low water of late summer. He can gain no right in the operation of the upper reservoir other than by contract with its owner. If the taking of the flood flow works no injury to him, he cannot be heard to complain.

In the foregoing memorandum we dealt with practices in the Western States where the doctrine of prior appropriation is so well understood. California is the only one of the seven Colorado River States which recognizes the riparian doctrine. Her projects using Colorado River water rest in no way on riparian rights, so that doctrine is not involved in considering water rights in the Colorado River Basin. For the benefit of Senators who come from States which know no water-right doctrine other than that of riparian rights, we proceed to show that riparian rights attach to the natural flow only, and that no lower owner can secure a right to the continued use of water released from storage except by contract with the storing agency.

In *Herminghaus v. So. Cal. Edison* (200 Cal. 81) the court, after an examination of many riparian right cases, concludes as follows regarding the right of riparian owners to the waters of a stream, page 103:

Their right thereto is to the usufruct of said flowing stream in the usual and ordinary course of its flow, and this right is a vested right inherent in the soil of their said lands and not a mere incident or appurtenant thereto.

The leading California cases dealing with a conflict between a lower riparian owner and a reservoir owner are *Lindblom v. Round Valley Water Co.* (178 Cal. 450) and *Seneca Mining Co. v. Gt. Western Power Co.* (209 Cal. 206).

In the *Lindblom* case the defendant, Round Valley Water Co., was an old storage company which had use in the early mining days, for mining purposes, for all of the waters stored by it. Due to the decrease in mining activity there was market for but a small amount of the water stored. Lindblom was a riparian owner on the water course below the reservoir and sought to restrain the impounding of the water. The court held that the Round Valley Co. had forfeited part of its right by nonuse, but that it still had the right to store that part of the water for which it had actual use. The part of the opinion bearing upon the point under comment is as follows, page 457:

Insofar as the right to any of the water had been forfeited by nonuser, the plaintiff would be entitled to have the amount so forfeited flow down the stream in its accustomed course. This does not mean that the plaintiff may claim any benefit from the maintaining by the defendant of its dams and reservoirs. He is not in a position to demand that the defendant shall, by its artificial works, furnish a constant flow of water in North Canyon throughout the year. His only rights are those which he would have had under the natural conditions existing before the dam was erected, subject to the deduction of so much of the water as defendant has continuously applied to a beneficial use. In other words, he cannot require the defendant to discharge any water into the stream during those months in which there would be no flow if no dam had ever been built. He may

merely insist that, during the months of natural flow, the defendant shall permit the escape into the canyon of the surplus of the natural flow over and above what is required to enable the defendant to meet its reasonable needs, measured by its maximum requirements during the 5 years preceding the commencement of the action.

In the *Seneca case*, the defendant, Great Western Power Co., in 1913 constructed a dam on the North Fork of Feather River and thereby formed a reservoir called Lake Almanor. Plaintiff was both a riparian owner and appropriator on the North Fork about 6 miles below the lake, and waters released from storage therein flowed by plaintiff's riparian lands. In 1921 defendant completed a tunnel to divert the natural flow of the North Fork and waters stored in Lake Almanor into a reservoir in Butt Valley, and thence to another power plant called the Caribou plant. The action was initiated to restrain defendant from thus diverting water to Butt Creek in such manner as to reduce the flow of the North Fork at plaintiff's lands below a specified minimum.

Regarding the defendant's prescriptive right to store in Lake Almanor, the court said (209 Cal. 219):

At this point respondent replied that, conceding a prescriptive right to have been acquired, that fact is unavailing here as the storage of the storm and natural waters of the stream in the manner carried on by defendant and their release in the manner done by it were and are a distinct benefit to plaintiff in that the flow of the stream was equalized and made uniform, pointing to the fact that 581.05 second-feet was the average flow during the summer months of July, August, and September; that in the period of high water and when the dam was closed, the tributaries below the dam furnished this constant amount of water so that at all times and during all seasons plaintiff has enjoyed a constant, steady flow at its lands of 581.05 second-feet; that it owns a prescriptive right to 106 second-feet and has an uncontestable right to 475 second-feet as riparian proprietor. This position is specious, but is it sound?

Moreover, the water right that plaintiff is entitled to have considered is its water right in a state of nature or, in other words, on the stream as it went by nature to flow, and not in a stream which defendant by an immense outlay has regulated to provide uniformity of volume and duration.

Most of the cases in the New England States dealing with riparian rights and storage relate to the use of the streams for power for mills.

In an early Maine case, *Hamor v. Water Company* (92 Me. 364, 42 Atl. 790, 793), it is said:

The natural flow was substantially the same with the new dam as with the old or without any dam. What the plaintiff wants is, not the natural flow, but an intermittent flow. This he is not entitled to by means of another man's dam that does not disturb the natural flow.

The *Hamor case* was quoted with approval in *Weare v. Chase* (93 Me. 264, 272), which case was followed in a later Maine case, *In re Opinions of the Justices* (106 Atl. 865). The opinion in this later case contains answers to questions propounded to the justices of the Supreme Judicial Court of Maine by the house of representatives. Question No. 2 is as follows:

(25) Question No. 2. In the case the construction and development of water storage reservoirs and basins as aforesaid is held to be legal, may the State charge to the owners of water powers located on rivers below such storage reservoirs and basins a proportional part of the cost of such construction and development, or in lieu thereof a sum in the nature of a rental or tax, based upon the increased power thereby made available for use of said water power owners (p. 873)?

In discussing the question, the court said :

Nor could any charge be enforced upon the lower water power owners, either in law or in equity. A person cannot be made a debtor against his will. If an upper riparian proprietor sees fit to improve the storage system, he cannot charge a lower proprietor with any portion of the cost. Artificial improvements inure to the benefit of the lower proprietors. *Phillips v. Sherman* (64 Me. 171) ; *Weare v. Chase* (93 Me. 269, 44 Atl. 900). True, the owner below can claim no special rights in the additional storage. He is entitled of right to only the natural flow of the stream ; but, if more than the natural flow at certain seasons comes to him, he can use it without being forced to pay therefor (p. 873).

In the Massachusetts case, *Mason v. Whitney* (78 N. E. 881, 884 (1906)), after citing the Maine Case, *Weare v. Chase*, the court said :

The general statement of the law in the decisions indicates that, in the absence of special rights acquired by grant or prescription, a riparian proprietor is entitled to nothing more or better than the natural flow of the stream.

Thus far throughout this hearing, the proponents of the treaty speak as if Mexico could either gain a right by using water presently released from storage in Lake Mead, or that under the comity of nations her use thereof should be recognized. It is clear from the above argument that such proponents are in error, as a right must be based upon the use of the natural flow, and waters released from storage are not part of the natural flow.

It should require no argument to reach the conclusion that great storage projects are not built for the immediate present. A generation at least is needed before all the water stored may be applied to consumptive use. In the meantime the stored waters can be used for the generation of electric energy. Necessarily in the early years of the project most of this water released for power must waste down the stream. But no lower owner can gain any right to the continued flow of such water. What he gets—as explained in the foregoing memorandum—is the corpus of those particular particles then taken by him. He secures no water right in the stream or reservoir.

To indulge this argument of proponents is to indict the integrity of those Congressmen who voted for the passage of the Boulder Canyon Project Act. They knew, as we know, that great quantities of water released from storage in Lake Mead for power purposes would then run into Mexico. If the legal principle governing the use of such released water were as claimed by the proponents, then the Congressmen so voting would have been false to their trust. But they knew that the correct legal principle was not to that effect. In fact, until recently, no one connected with the development of waters of the Colorado River in the United States ever voiced such a thought. In the foregoing memorandum, we quoted the resolution unanimously adopted by the Committee of Fourteen at Phoenix, on June 23, 1938—and often referred to in the present hearing. We again quote part of the resolution, as follows :

* * * it is the policy and purpose of the Government of the United States of America to reserve for use within the boundaries of the United States of America all waters of the Colorado River which may be stored or impounded therein to the end that the Government of the United States of Mexico, the citizens of that republic, and the owners of Mexican lands may have direct and timely notice and warning that the use by them of any of such waters as may temporarily flow into Mexico shall establish no right, legal or moral, to the continued use of such waters.

As we do not believe those voting for the resolution were "bluffing," we conclude that they were then in honest agreement with us—

that the use * * * of any of such waters as may temporarily flow into Mexico shall establish no right, legal or moral, to the continued use of such waters.

Mr. SWING. Will I have time for one more witness, Mr. Chairman? Senator WILEY. All right.

Mr. SWING. Mr. Fred Simpson, of the city of San Diego, he being a holder of a United States contract for Colorado River water.

STATEMENT OF FRED W. SIMPSON, MEMBER, COLORADO RIVER BOARD OF CALIFORNIA; DIRECTOR, SAN DIEGO COUNTY WATER BOARD

Mr. SIMPSON. Honorable Chairman and Senators, my name is Fred W. Simpson of San Diego, Calif. I am a member of the Colorado River Board of California, and a director on the San Diego County Water Authority.

Due to the fact that other representatives of California already have, or will, testify for their own communities, I will confine my testimony to San Diego's position in the matter and our reasons for protesting ratification of this treaty in its present form.

I am not a lawyer or an engineer. I am merely a citizen trying to help my community to protect its needed and vital water supply. Ample proof of the fact that San Diego needs water from the Colorado River right now, is this Senate Document No. 249 of the Seventy-eighth Congress, which is a communication from the President of the United States—transmitting a Government report relative to an impending emergency in the water supply of San Diego County, Calif., due to the large military installations, industrial and war housing installations in the area. I submit the document in evidence, and ask you, gentlemen, if you doubt our need for Colorado River water, to read it. This is the document.

About 2 years ago we started to worry about the outcome of our contract for this water. As a result, we entered into a contract with the Government agreeing to pay our share, which was \$75,000, of the cost of survey being made by the United States Reclamation Bureau. The survey is for the purpose of finding the most feasible route over which we could bring this water to our country.

Also, we recently completed building a dam costing the citizens of San Diego \$3,500,000, to be used as a terminal reservoir for our Colorado River water. Never for one moment did we think that our allotment of water would be put in jeopardy so that the Secretary of Interior might not be able to deliver our full allotment of water because of some subsequent allotment to another country. We had the naive thought that we were dealing with the United States Government and that our Government's promise could be relied upon.

I am somewhat familiar with conditions on the west slope of Lower California. Lower California is a territory of the Republic of Mexico. It has a population, however, of only about 55,000 people, and to my knowledge this population has been rather static. The lack of development in Lower California is not because of lack of water in that territory. They have at least as much in the way of water

resources in the coastal range of their mountains, if not more than we in San Diego have.

Up to the present the city and county of San Diego has been getting its entire water supply from local streams by building a series of dams to catch and hold the periodical floods which occur at intervals of about 10 years. The population of San Diego County at present is 422,000 civilians—or at least it was last July; it is probably more now—not considering the personnel of the various military installations in and around San Diego. We have been able to develop a water supply sufficient to support a population of 250,000 and the normal armed forces stationed thereabouts, and that supply is now inadequate. This shows what could be done in Lower California if Mexico had the money and enterprise to develop her latent water resources.

In addition to our objecting to the allotting of 1,500,000 acre-feet of Colorado River water to Mexico, we object to article 16 of the treaty dealing with the Tijuana River system which only concerns those of us in San Diego. There are two streams in San Diego County, the water of which cannot be conserved without a dam, and the only feasible site for a dam to catch the water of these two streams happens to be directly upon the international boundary line. Article 16 reads:

In order to improve existing uses and to assure any feasible further development, the Commission shall study and investigate, and shall submit to the two Governments for their approval—

(1) Recommendations for the equitable distribution between the two countries of the waters of the Tijuana River system;

(2) Plans for storage and flood control to promote and develop domestic, irrigation, and other feasible uses of the waters of this system;

(3) An estimate of the cost of the proposed works and the manner in which the construction of such works or the cost thereof should be divided between the two Governments;

(4) Recommendations regarding the parts of the works to be operated and maintained by the Commission and the parts to be operated and maintained by each section.

The two Governments through their respective sections of the Commission shall construct such of the proposed works as are approved by both Governments, shall divide the work to be done or the cost thereof, and shall distribute between the two countries the waters of the Tijuana River system in the proportions approved by the two Governments. The two Governments agree to pay in equal shares the costs of joint operation and maintenance of the works involved, and each Government agrees to pay the cost of operation and maintenance of the works assigned to it for such purpose.

This language settles nothing. It determines nothing. It merely promises that at some unstated time, the Commission will study our problems and then make an agreement, without the further consent of the Senate, or perhaps even the knowledge of the citizens most concerned.

If this treaty were approved today, we could not under its terms conserve within our county water which is running to waste because the treaty requires that Mexico shall share in the cost of development. We know and have every reason to fear that she would not do this for a long time for the reason that Mexico now has a dam on the Tijuana River known as Rodriguez Dam with more than ample water for the entire Tijuana Valley and the town of Tijuana. All of the water conserved by this dam is not needed now with the result the dam is spilling most of the time.

I may say on the side that that dam is, to my personal knowledge, spilling at times in the year when our own dam in San Diego County, just across the line, is down because of excessive use.

With respect to the Colorado River water and our allotment of 112,000 acre-feet, I desire to point out that we are so low in priority with reference to the other agencies in California that we fear any diminution as the result of the extra quantity allotted to Mexico, as provided in this treaty, would seriously impair the Secretary of the Interior's ability to deliver our allotment in full when the time comes that we need it most. We know that if this treaty is ratified, our water will be junior to that allotted to Mexico and we know there is not enough water in the Colorado to meet all demands. Though a guaranty has never been thought necessary, in view of the guaranty made to Mexico in this treaty, it seems only fair that a similar guaranty should be made the American contractual users and that guaranty should take precedence over the 750,000 extra acre-feet allocated to Mexico.

In conclusion, we of San Diego oppose this treaty in its present form, because:

First, it would diminish the amount of water in the Colorado River available for delivery to San Diego City and County under our contract with the Government.

Second, Mexico does not need the amount of Colorado River water proposed to be given to her as much as we do.

Third, it does not settle question of water division for the Tijuana River and contains no agreement for development of water on that stream.

Fourth, San Diego City and County need water now. This has been proven by recent Presidential action.

Fifth, the people of Mexico would, in my humble opinion, be much better served if, in addition to firming the 750,000 acre-feet in the Colorado, the United States helped her develop her own large quantity of water on the west slope of Lower California where most of the Mexican people live. This plan would be of real benefit and of immediate value to the Mexican people.

Since I oppose the treaty in its present form, without wishing or intending to appear obstreperous, may I suggest the following alternative: Instead of giving to Mexico a quantity of water beyond the 750,000 acre-feet, which we all seem to agree would be just and equitable, out of the Colorado River—that we give them the money—say \$25,000,000 or \$35,000,000, said money to be used by them to develop and conserve 750,000 acre-feet of water now going to waste in Mexican streams.

The CHAIRMAN. Where does the Tijuana rise?

Mr. SIMPSON. The Tijuana rises partly in Mexico, and part of the water tributary to the Tijuana is in the United States, in San Diego County, Senator.

The CHAIRMAN. Where does it rise, in Mexico or the United States?

Mr. SIMPSON. In both places, sir—both countries.

The CHAIRMAN. It has two points of origin?

Mr. SIMPSON. There are two streams in San Diego County, known as Pine Creek and Cottonwood Creek. Those are two streams we would like to develop if we could, but we cannot.

The CHAIRMAN. I am just talking about the Tijuana. Do they flow into the Tijuana?

Mr. SIMPSON. They are branches of the Tijuana.

The CHAIRMAN. Does the Tijuana flow into the Rio Grande?

Mr. SIMPSON. I did not say anything about the Rio Grande.

The CHAIRMAN. I mean the Colorado.

Mr. SIMPSON. No. Into the Pacific Ocean.

The CHAIRMAN. Does it go through Mexico on the way?

Mr. SIMPSON. Partly. The only feasible site to build a dam to get the waters of the tributaries to the Tijuana River is altogether in Mexican, or partly in Mexican territory.

The CHAIRMAN. Does it then flow back into the United States?

Mr. SIMPSON. Part of it; yes, sir.

The CHAIRMAN. Below that?

Mr. SIMPSON. Yes, sir.

The CHAIRMAN. So you think this treaty ought to make some provision about giving to the United States part of the water out of the Tijuana?

Mr. SIMPSON. Definitely. Something definite is what we are asking for.

The CHAIRMAN. That is what I mean. You think some of that water, therefore, which would have to be impounded by Mexico, ought to be diverted to the United States?

Mr. SIMPSON. Yes, sir; at least quantities that we contribute to it.

The CHAIRMAN. I see. How much is that?

Mr. SIMPSON. Our hydraulic engineer says about 4,500,000 gallons per day it would develop, if it were developed.

The CHAIRMAN. You get that water from the All-American Canal?

Mr. SIMPSON. We do not get any water from the Colorado River now, sir.

The CHAIRMAN. You do not get any now?

Mr. SIMPSON. No, sir.

The CHAIRMAN. I thought you said you had an allocation of 112,000 acre-feet?

Mr. SIMPSON. We have an annual allotment of 112,000 acre-feet; yes, sir.

The CHAIRMAN. But you do not get any from the Colorado now?

Mr. SIMPSON. Not yet.

The CHAIRMAN. So this treaty would not cut any of your water off?

Mr. SIMPSON. Not right now, but we know it will.

The CHAIRMAN. I mean any water you are getting now. You would not have a gallon cut off?

Mr. SIMPSON. No; because the only water we get is our own water in our own county.

The CHAIRMAN. I am just trying to bring out the facts. It has been a long time since I was in San Diego. I want to know the facts.

Mr. SIMPSON. Those are the facts.

The CHAIRMAN. I was out there in 1916, when Hughes was a candidate for President. I heard him make a speech at San Diego—plenty of wind, but very little water.

I do not want to harass you or bother you.

Mr. SIMPSON. I do not mind.

The CHAIRMAN. You get no water out of the Colorado now?

Mr. SIMPSON. No, sir.

The CHAIRMAN. Where would you get it if you did get it?

Mr. SIMPSON. The Reclamation Bureau engineers are studying now which would be the most feasible right of way over which we could bring water from the Colorado into San Diego.

The CHAIRMAN. It would not be practical to get it from the Imperial Valley because that is below sea level and would require pumping to get the water to San Diego?

Mr. SIMPSON. It would be entirely practical. What the engineers are studying is which is the most feasible way from the standpoint of cost.

The CHAIRMAN. But if you got it from the Imperial Valley you would have to pump it, would you not?

Mr. SIMPSON. Yes, of course. The metropolitan water district of Los Angeles pumps theirs too.

The CHAIRMAN. I did not ask you about that; I asked you about yours.

Mr. SIMPSON. I think any water from the Colorado on the west slope of the State of California has to be pumped.

The CHAIRMAN. I believe that is all.

Mr. SIMPSON. Thank you very much.

Mr. SWING. The next witness is Mr. David W. Bird, chairman of the board of supervisors of San Diego County, which is the holder of a United States contract for Colorado River water.

The CHAIRMAN. Very well.

STATEMENT OF DAVID W. BIRD, CHAIRMAN, BOARD OF SUPERVISORS OF SAN DIEGO COUNTY, CALIF.

Mr. BIRD. Mr. Chairman and gentlemen of the committee, my name is David W. Bird, chairman of the board of supervisors of San Diego County, Calif. I am instructed by the board of supervisors of the county of San Diego and by the city council of the city of San Diego to represent them in opposing this treaty.

The county and city of San Diego are the holders of a contract with the United States Government calling for 112,000 acre-feet of Colorado River water from the Boulder Dam. I desire to file with the committee, as a part of my statement, a copy of this contract. Under the California priorities, we honestly fear that the city and county of San Diego will be one of the first California communities adversely affected if Mexico is given the amount of water as outlined in this treaty.

Steps have been already taken to put the contracted water to beneficial use and its need is recognized by every one who has investigated our situation.

The city of San Diego also entered into another contract with the Federal Government for the construction of carrying capacity in the All-American Canal, to cost the city approximately \$400,000 and the city is making regular annual payments to the Government. This contract covers the first 80 miles from the Colorado River toward San Diego.

Also, the city and county have entered into a contract with the United States Government to survey alternate routes from the Colo-

rado River, specifically: the Metropolitan aqueduct and the All-American Canal routes. These surveys are being made by the Bureau of Reclamation and the Federal Works Agency, and the city of San Diego and county of San Diego are advancing \$75,000 as their share of the cost. The surveys are nearing completion.

The city and county cooperated in establishing a common agency, under California law, to act for nine communities in our county. That agency is the San Diego County Water Authority, and its purpose and job is to bring Colorado River water to San Diego County; and it is the intention of the city of San Diego and the county of San Diego to transfer their Boulder Dam contract to this agency, with the consent of the Secretary of the Interior.

That we are in need of this water is evidenced by the will of the people when they voted to create the authority by a vote of 16 to 1. Our engineers and water consultants have advised us that this treaty will make it impossible for the Government to carry out its contracts with the people of San Diego County. I submit the resolutions adopted by the city and county of San Diego, protesting this treaty, and urge this honorable body not to approve any treaty with Mexico that does not safeguard our contract rights with the United States Government.

(The contracts and resolutions referred to by Mr. Bird are as follows:)

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

BOULDER CANYON PROJECT

CONTRACT FOR DELIVERY OF WATER

(1) This contract, made this 15th day of February 1933, pursuant to the act of Congress approved June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, all of which acts are commonly known and referred to as the reclamation law, and particularly pursuant to the act of Congress approved December 21, 1928 (45 Stat. 1057), designated the Boulder Canyon Project Act, between the United States of America, hereinafter referred to as the United States, acting for this purpose by Ray Lyman Wilbur, Secretary of the Interior, hereinafter styled the Secretary, and the City of San Diego, a municipal corporation of the State of California, hereinafter styled the city, organized under a freeholders' charter;

WITNESSETH:

EXPLANATORY RECITALS

(2) Whereas, for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters for reclamation of public lands and other beneficial uses exclusively within the United States, the Secretary, subject to the terms of the Colorado River compact, is authorized to construct, operate, and maintain a dam and incidental works in the main stream of the Colorado River at Black Canyon or Boulder Canyon, adequate to create a storage reservoir of a capacity of not less than 20,000,000 acre-feet of water, and a main canal and appurtenant structures located entirely within the United States connecting the Laguna Dam, or other suitable diversion dam with the Imperial and Coachella Valleys in California; and

(3) Whereas the United States contemplates entering into an agreement with Imperial Irrigation district, an irrigation district organized and existing under and by virtue of the laws of the State of California, providing, among other things, for the construction of a main canal and appurtenant structures, author-

ized as aforesaid, and reserving under conditions to be therein stated, the right to increase the capacity of said works and to contract for such increased capacity with other agencies for the delivery of water for use within the United States; and

(4) Whereas the United States and the city contemplate hereafter entering into a contract by which provisions will be made for increasing, for the city's benefit and at its cost, the capacity of the main canal and appurtenant works to be constructed for Imperial irrigation district, as aforesaid; and

(5) Whereas the city is desirous of entering into a contract for the delivery to it of water from Boulder Canyon Reservoir;

(6) Now, therefore, in consideration of the mutual covenants herein contained, the parties hereto agree as follows, to wit:

DELIVERY OF WATER BY UNITED STATES

(7) The United States shall, from storage available in the reservoir created by Hoover Dam, deliver to the city each year at a point in the Colorado River immediately above Imperial Dam, so much water as may be necessary to supply the city a total quantity, including all other waters diverted by the city from the Colorado River, in the amounts and with priorities in accordance with the recommendation of the Chief of the Division of Water Resources of the State of California, as follows (subject to the availability thereof for use in California under the Colorado River compact and the Boulder Canyon Project Act):

The waters of the Colorado River available for use within the State of California under the Colorado River compact and the Boulder Canyon Project Act shall be apportioned to the respective interests below named and in amounts and with priorities therein named and set forth, as follows:

SECTION 1. A first priority to Palo Verde irrigation district for beneficial use exclusively upon lands in said district as it now exists and upon lands between said district and the Colorado River, aggregating (within and without said district) a gross area of 104,500 acres, such waters as may be required by said lands.

SEC. 2. A second priority to Yuma project of the United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said project in California, such waters as may be required by said lands.

SEC. 3. A third priority (a) to Imperial irrigation district and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde irrigation district for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde irrigation district, for beneficial consumptive use, 3,850,000 acre-feet of water per annum less the beneficial consumptive use under the priorities designated in sections 1 and 2 above. The rights designated (a) and (b) in this section are equal in priority. The total beneficial consumptive use under priorities stated in sections 1, 2, and 3 of this article shall not exceed 3,850,000 acre-feet of water per annum.

SEC. 4. A fourth priority to the metropolitan water district of southern California and/or the city of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the coastal plain of southern California, 550,000 acre-feet of water per annum.

SEC. 5. A fifth priority, (a) to the metropolitan water district of southern California and/or the city of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the coastal plain of southern California, 550,000 acre-feet of water per annum, and (b) to the city of San Diego and/or county of San Diego, for beneficial consumptive use, 112,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SEC. 6. A sixth priority (a) to Imperial irrigation district and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde irrigation district for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde irrigation district, for beneficial consumptive use, 300,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SEC. 7. A seventh priority of all remaining water available for use within California, for agricultural use in the Colorado River Basin in California, as said basin is designated on map No. 23000 of the Department of the Interior, Bureau of Reclamation.

SEC. 8. So far as the rights of the allottees named above are concerned, the metropolitan water district of southern California and/or the city of Los Angeles

shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said district and/or said city (not exceeding at any one time 4,750,000 acre-feet in the aggregate) by reason of reduced diversions of said district and/or said city; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between said district and/or said city and such users resulting therefrom.

SEC. 9. In addition, so far as the rights of the allottees named above are concerned, the city of San Diego and/or county of San Diego shall have the exclusive right to withdraw and divert into an aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said city and/or said county (not exceeding at any one time 250,000 acre-feet in the aggregate) by reason of reduced diversions by said city and/or said county; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between the said city and/or said county and such users resulting therefrom.

SEC. 10. In no event shall the amounts allotted in this agreement to the metropolitan water district of southern California and/or the city of Los Angeles be increased on account of inclusion of a supply for both said district and said city, and either or both may use said apportionments as may be agreed by and between said district and said city.

SEC. 11. In no event shall the amounts allotted in this agreement to the city of San Diego and/or to the county of San Diego be increased on account of inclusion of a supply for both said city and said county, and either or both may use said apportionments as may be agreed by and between said city and said county.

SEC. 12. The priorities hereinbefore set forth shall be in no wise affected by the relative dates of water contracts executed by the Secretary of the Interior with the various parties.

The Secretary reserves the right to, and the district agrees that he may, contract with any of the allottees above named in accordance with the above-stated recommendation, or, in the event that such recommendation as to Palo Verde irrigation district is superseded by an agreement between all the above allottees or by a final judicial determination, to contract with the Palo Verde irrigation district in accordance with such agreement or determination; provided that priorities numbered fourth and fifth shall not thereby be disturbed.

Said water shall be delivered continuously as far as reasonable diligence will permit, but the United States shall not be obligated to deliver water to the city when for any reason such delivery would interfere with the use of Hoover Dam and Boulder Canyon Reservoir for river regulation, improvement of navigation, flood control, and/or satisfaction of perfected rights, in or to the waters of the Colorado River, or its tributaries, in pursuance of article VIII of the Colorado River compact, and this contract is made upon the express condition and with the express covenant that the right of the city to waters of the Colorado River, or its tributaries, is subject to and controlled by the Colorado River compact. The United States reserves the right to discontinue or temporarily reduce the amount of water to be delivered for the purpose of investigation, inspection, maintenance, repairs, replacements, or installation of equipment and/or machinery at Hoover Dam, but so far as feasible the United States will give the city reasonable notice in advance of such temporary discontinuance or reduction. The United States, its officers, agents, and employees shall not be liable for damages when, for any reason whatsoever, suspensions or reductions in delivery of water occur.

Deliveries hereunder shall be in satisfaction of the allocation to the city and the county of San Diego, and shall be used within the county as the city and the county may agree, or as to the State of California may allocate in the event of disagreement between the city and the county.

This contract is for permanent service, but is made subject to the express covenant and condition, that in event water is not taken or diverted by the city

hereunder within a period of 10 years from and after completion of Hoover Dam as announced by the Secretary, it may in such event, upon the written order of the Secretary, and after hearing, become null and void and of no effect.

RECEIPT OF WATER BY CITY

(8) The city shall receive the water to be delivered to it by the United States under the terms hereof at the point of delivery above stated, and shall perform all sets required by law or custom in order to maintain its control over such water and to secure and maintain its lawful and proper diversion from the Colorado River.

MEASUREMENT OF WATER

(9) The water to be delivered hereunder shall be measured by such measuring and controlling devices or such automatic gages or both, as shall be satisfactory to the Secretary. Said measuring and controlling devices, or automatic gages, shall be furnished, installed, and maintained by and at the expense of the city, but they shall be and remain at all times under the complete control of the United States, whose authorized representatives may at all times have access to them over the lands and rights-of-way of the city.

RECORD OF WATER DIVERTED

(10) The city shall make full and complete written monthly reports as directed by the Secretary, on forms to be supplied by the United States, of all water diverted from the Colorado River. Such reports shall be made by the fifth day of the month immediately succeeding the month in which the water is diverted, and the records and data from which such reports are made shall be accessible to the United States on demand of the Secretary.

CHARGE FOR DELIVERY OF WATER

(11) A charge of 25 cents (0.25) per acre-foot shall be made for water delivered to the city hereunder during the Hoover Dam cost repayment period.

MONTHLY PAYMENTS AND PENALTIES

(12) The city shall pay monthly for all water delivered to it hereunder, or diverted by it from the Colorado River, in accordance with the rate herein in article 11 established. Payments shall be due on the first of the second month immediately succeeding the month in which water is delivered and/or diverted. If such charges are not paid when due, a penalty of 1 percent of the amount unpaid shall be added thereto, and thereafter an additional penalty of 1 percent of the amount unpaid shall be added on the first day of each calendar month during such delinquency.

REFUSAL OF WATER IN CASE OF DEFAULT

(13) The United States reserves the right to refuse to deliver water to the city in the event of default for a period of more than 12 months in any payment due or to become due the United States under this contract.

INSPECTION BY THE UNITED STATES

(14) The Secretary or his representatives, shall at all times have the right of ingress to and egress from all works of the city for the purpose of inspection, repairs and maintenance of works of the United States, and for all other proper purposes. The Secretary or his representatives shall also have free access at all reasonable times to the books and records of the city relating to the diversion and distribution of water delivered to it hereunder with the right at any time during office hours to make copies of or from the same.

DISPUTES OR DISAGREEMENTS

(15) Disputes or disagreements as to the interpretation or performance of the provisions of this contract shall be determined either by arbitration or court

proceedings, the Secretary of the Interior being authorized to act for the United States in such proceedings. Whenever a controversy arises out of this contract, and the parties hereto agree to submit the matter to arbitration, the city shall name one arbitrator and the Secretary shall name one arbitrator, and the two arbitrators thus chosen shall elect three other arbitrators, but in the event of their failure to name all or any of the three arbitrators within 5 days after their first meeting, such arbitrators, not so elected, shall be named by the senior judge of the United States Circuit Court of Appeals for the Ninth Circuit. The decision of any three of such arbitrators shall be a valid and binding award of the arbitrators.

RULES AND REGULATIONS

(16) There is reserved to the Secretary the right to prescribe and enforce rules and regulations governing the delivery and diversion of water hereunder. Such rules and regulations may be modified, revised and/or extended from time to time after notice to the city and opportunity for it to be heard, as may be deemed proper, necessary, or desirable by the Secretary to carry out the true intent and meaning of the law and of this contract, or amendments hereof, or to protect the interests of the United States. The city hereby agrees that in the operation and maintenance of its diversion works and aqueduct, all such rules and regulations will be fully adhered to.

AGREEMENT SUBJECT TO COLORADO RIVER COMPACT

(17) This contract is made upon the express condition and with the express understanding that all rights hereunder shall be subject to and controlled by the Colorado River compact, being the compact or agreement signed at Santa Fe, N. M., November 24, 1922, pursuant to act of Congress, approved August 19, 1921, entitled "An act to permit a compact or agreement between the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming respecting the disposition and apportionment of the waters of the Colorado River, and for other purposes," which compact was approved in section 13 (a) of the Boulder Canyon Project Act.

PRIORITY OF CLAIMS OF THE UNITED STATES

(18) Claims of the United States arising out of this contract shall have priority over all others, secured or unsecured.

CONTINGENT UPON APPROPRIATIONS

(19) This contract is subject to appropriations being made by Congress from year to year of moneys sufficient to do the work provided for herein, and to there being sufficient moneys available in the Colorado River Dam fund to permit allotments to be made for the performance of such work. No liability shall accrue against the United States, its officers, agents, or employees, by reason of sufficient moneys not being so appropriated nor on account of there not being sufficient moneys in the Colorado River Dam fund to permit of said allotments. This agreement is also subject to the condition that if for any reason construction of Hoover Dam is not prosecuted to completion with reasonable diligence, then and in such event either party hereto may terminate its obligations hereunder upon 1 year's written notice to the other party hereto.

RIGHTS RESERVED UNDER SECTION 3737, REVISED STATUTES

(20) All rights of action for breach of any of the provisions of this contract are reserved to the United States as provided in section 3737 of the Revised Statutes of the United States.

REMEDIES UNDER CONTRACT NOT EXCLUSIVE

(21) Nothing contained in this contract shall be construed as in any manner abridging, limiting, or depriving the United States of any means of enforcing any remedy either at law or in equity for the breach of any of the provisions hereof which it would otherwise have.

INTEREST IN CONTRACT NOT TRANSFERABLE

(22) No interest in this agreement is transferable, and no sublease shall be made, by the city without the written consent of the Secretary, and any such attempted transfer or sublease shall cause this contract to become subject to annulment, at the option of the United States.

MEMBER OF CONGRESS CLAUSE

(23) No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom. Nothing, however, herein contained shall be construed to extend to this contract if made with a corporation for its general benefit.

In witness whereof, the parties hereto have caused this contract to be executed the day and year first above written.

THE UNITED STATES OF AMERICA,
By RAY LYMAN WILBUR,
Secretary of the Interior.
THE CITY OF SAN DIEGO,
By JOHN FORWARD, Jr., *Mayor.*

Attest:

ROTHWELL, (?) ELY. [SEAL]
RICHARD J. COFFEY. [SEAL]

Approved as to form:

C. L. BYERS, *City Attorney.*

Attest:

ALLEN H. WRIGHT, *City Clerk.*

As evidence of its approval of the foregoing contract between the United States and the city, the county of San Diego has caused the signature of the chairman of its board of supervisors to be affixed thereto.

THE BOARD OF SUPERVISORS OF SAN DIEGO COUNTY,
By TOM HURLEY, *Chairman.*

Attest:
[SEAL]

J. B. McLEES, *County Clerk.*

Approved as to form, February 7, 1933.

RAY LYMAN WILBUR,
Secretary of the Interior.

RESOLUTION NO. 59676

Be it resolved by the Council of the City of San Diego, as follows:

That the mayor of the city of San Diego be, and he is hereby, authorized and directed to execute for and on behalf of the city of San Diego a contract with the United States concerning the delivery of water from Boulder Canyon Reservoir; be it further

Resolved, That upon execution of said contract the mayor of the city of San Diego is hereby authorized and directed to deliver the same, on behalf of said city, to the duly authorized representative of the United States.

I hereby certify the above to be a full, true, and correct copy of Resolution 59676 of the Council of the City of San Diego, as adopted by the said council February 14, 1933.

ALLEN H. WRIGHT, *City Clerk.*
By CLARK M. FOOTE, Jr., *Deputy.*

IN THE MATTER OF APPROVING CONTRACT BETWEEN THE CITY OF SAN DIEGO AND THE UNITED STATES FOR DELIVERY OF WATER FROM BOULDER CANYON PROJECT

Whereas the city of San Diego has agreed to enter into a contract with the United States of America for the delivery of water from the Boulder Canyon project to the city of San Diego, and/or the county of San Diego; and

Whereas said contract provides for priorities for beneficial use of said water by the City of San Diego and/or the county of San Diego: Now, therefore, on

motion of Supervisor Hastings, seconded by Supervisor McMullen: It is hereby *Resolved*, That the county of San Diego hereby approves said contract between the city of San Diego and the United States of America for the delivery of water from Boulder Canyon project to said city and/or county, and does hereby authorize the chairman of the board of supervisors of said county of San Diego to signify the approval of said contract by said county, by affixing his signature thereto on behalf of the county of San Diego, and does hereby authorize the county clerk of said county to attest said signature.

Passed and adopted by the board of supervisors of the county of San Diego, State of California, this 14th day of February 1933, by the following vote, to wit:

Ayes: Supervisors Hastings, Richards, Trussell, McMullen, and Hurley.

Noes: Supervisors, none.

Absent: Supervisors, none.

J. B. McLEES,

County Clerk and ex officio Clerk of the Board of Supervisors.

C. BUCKLEY.

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

CONTRACT BETWEEN THE UNITED STATES, ACTING THROUGH, THE BUREAU OF RECLAMATION; THE CITY OF SAN DIEGO, AND THE COUNTY OF SAN DIEGO FOR THE SURVEY OF ROUTES FOR CARRYING COLORADO RIVER WATER TO THE CITY AND COUNTY

This contract made this 29th day of May 1943, between the United States of America, acting for this purpose through the Bureau of Reclamation, hereinafter styled the Bureau; the city of San Diego, hereinafter styled the city, represented by the officer thereof executing this contract; and the county of San Diego, hereinafter styled the county, represented by the officer thereof executing this contract;

WITNESSETH:

2. Whereas under the terms of that certain contract dated February 15, 1933 (symbol and number, 114-713), between the United States and the city, the United States agreed to deliver a certain quantity of water to the city at a point in the Colorado River for the use of the city and/or the county; and

3. Whereas the exigencies of the present war have so increased the demand for water in the San Diego area, as to make imperative the immediate survey and study of the several routes by which Colorado River water may be carried to the San Diego area; and

4. Whereas the Bureau and the city have joined with the Federal Works Agency in that certain contract of May 28, 1943, for the making of necessary engineering studies and surveys preliminary to the construction of an aqueduct or canal to connect the water supply system of the city to the aqueduct of the metropolitan water district of southern California at or near the west portal of the San Jacinto tunnel; and

5. Whereas it is desirable that such investigations as are made of the metropolitan water district connection be compared with surveys and investigations of alternate routes and in particular those using, in part, the facilities of the All-American Canal, and that they also be correlated with other studies and investigations made and being made by the Bureau of Reclamation for a full utilization of the water resources of the Colorado River;

6. Now, therefore, in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

7. In accordance with detailed plans hereafter to be agreed upon between the representatives of the respective parties hereto the Bureau will make engineering studies and prepare preliminary reports and estimates on a route for carrying water to the San Diego area from the Colorado River that would connect the water systems serving the city and county with the All-American Canal. Such studies and reports shall include a comparison of its findings under this contract with those made under the contract of May 28, 1943, referred to in article 4, hereof, and the Bureau will advise the county and city of its opinion of the most feasible route (all factors, economical and physical, being considered) for the carrying of Colorado River water to the San Diego area.

8. The cost of said investigations, reports, and estimates shall not exceed \$75,000. Inasmuch as the city has obligated itself to pay the sum of \$30,000 to provide for the investigations to be made pursuant to the agreement described in article 4 and as it is desirable that the city and county share equally in the costs of both surveys, it is agreed that the same sum of \$75,000 shall be borne by the Bureau to the amount of \$30,000, by the city to the amount of \$7,500, and by the county to the amount of \$37,500. It is further agreed that upon execution of this agreement, the city and the county will advance to the Bureau their respective shares of the above-stated cost, and that the Bureau shall not be obligated to perform any work hereunder unless and until the said advances have been made.

9. The aggregate cost of all investigations, reports, and estimates, as stated in article 8 hereof, shall include only expenditures made by the Bureau, either directly or in reimbursing other agencies of the United States for service contemplated in article 11 hereof, of funds (1) appropriated to the Bureau, (2) advanced to the Bureau by the city, and (3) advanced to the Bureau by the county. In each case the expenditure shall include all reasonable charges for consulting, surveys, and general expense, as well as the direct cost connected with field and office work. Upon completion of the work on the said investigations, reports, and estimates herein provided for, if the actual cost, as determined by the Bureau, be less than as stated in article 8, there shall be made an appropriate adjustment between the Bureau, the city, and the county by refund, so that each shall bear the cost in accordance with the proportions indicated in article 8.

10. The said investigations, reports, and estimates shall be made under the direction of the chief engineer of the Bureau and all employees engaged by the Bureau therein, except as otherwise provided herein, shall be subject to the established rules and regulations of the United States Civil Service Commission.

11. The services of other agencies of the United States may be utilized in the prosecution of the work agreed upon herein in accordance with arrangements which from time to time may be made by the Bureau.

12. The Bureau agrees to conduct its investigations and make its reports hereunder in as expeditious manner as possible. It being understood, however, that the work to be performed under that certain contract of May 28, 1943, between the city, the Bureau, and the Federal Works Agency shall have precedence over that to be done hereunder.

13. Field notes, original plans, calculations, or other data acquired or prepared by the Bureau in pursuance of this contract, upon completion of the work herein agreed upon, will be filed with the Bureau, and copies of such records will be furnished the other parties hereto on their request if funds are available for that purpose.

14. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this contract if made with a corporation or company for its benefit.

15. Where the operations of this contract extend beyond the current fiscal year, the contract is made contingent upon Congress making the necessary appropriation for expenditures hereunder after such current year shall have expired. In case such appropriation as may be necessary to carry out this contract is not made, the city and county hereby release the United States from all liability due to the failure of Congress to make such appropriation.

In witness whereof the parties hereto have caused this contract to be executed the day and year first above written.

[SEAL]

THE UNITED STATES OF AMERICA,
By S. C. HARPER,
Chief Engineer, Bureau of Reclamation.
THE CITY OF SAN DIEGO,
By WALTER W. COOPER.

[SEAL]

Attest :

FRED W. SICK, *City Clerk.*
THE COUNTY OF SAN DIEGO,
By DAVID W. BIRD,
Chairman, Board of Supervisors.
J. B. MCLEES,
County Clerk and Ex Officio Clerk of the Board of Supervisors.
By M. NASLAND, *Deputy.*

Attest :

RESOLUTION NO. 79152

Be it resolved by the Council of the City of San Diego as follows:

Whereas the Congress of the United States of America did in the Boulder Canyon Project Act authorize the construction of a high dam on the Colorado River at Black Canyon, now known as Boulder Dam, and did in said act expressly declare that the waters stored in the reservoir created by said dam should be for "beneficial uses exclusively within the United States"; and

Whereas pursuant to said act the Secretary of the Interior in the year 1933 entered into a contract with the city of San Diego obligating the United States to deliver annually to this city, as ordered by it, up to 112,000 acre-feet of water from said Boulder Dam; and

Whereas other American communities also hold similar contracts executed by the Secretary of the Interior or have acknowledged rights to Colorado River water, which in the aggregate approach the net safe yield of that river; and

Whereas the city of San Diego and those other American communities holding contracts with the United States have expanded in reliance thereon several hundred million dollars in projects for the utilization of said Colorado River water, which said communities are dependent on said water for their continued growth and prosperity; and

Whereas a treaty has been negotiated with Mexico and is now awaiting consideration by the Senate of the United States of America, which treaty guarantees Mexico twice as much Colorado River water as Mexico ever put to beneficial use or ever could have put to beneficial use without the aid of storage created by Boulder Dam; and

Whereas the delivery of Colorado River water to Mexico in the amounts and as proposed in said treaty will of necessity impair the ability of the United States to perform its own contractual obligations to deliver Colorado River water to American communities: Now, therefore, be it

Resolved, That the Council of the City of San Diego does hereby protest against the terms of said treaty and urges the Senate of the United States of America not to concur in the same unless the treaty is changed, amended, or modified to protect and safeguard the city of San Diego and other American communities to the quantities of Colorado River water which the United States has obligated itself by contracts heretofore made and entered into to deliver to such communities; be it further

Resolved, That the city clerk be, and he is hereby, instructed to forthwith mail certified copies of this resolution to Hon. Tom Connally, chairman of the Senate Committee on Foreign Relations; to Hon. Hiram W. Johnson and Hon. Sheridan Downey, the United States Senators from California; and to each of the Representatives in Congress from California.

Passed and adopted by the said council of the said city of San Diego, Calif., this 23d day of February 1944 by the following vote, to wit:

Yeas—Councilmen Simpson, H. D. Austin, Boud, Dail, W. W. Austin, Mayor Know.

Nays—Councilmen: None.

Absent—Councilman Hartley.

Attest:

[SEAL]

HARLEY E. KNOX,
Mayor of the City of San Diego, Calif.

FRED W. SICK,
City Clerk of the City of San Diego, Calif.

By AUGUST M. WADSTROM,
Deputy.

I hereby certify that the above and foregoing resolution was passed by the Council of the said City of San Diego, at the time and by the vote, above stated.

[SEAL]

FRED W. SICK,
City Clerk of the City of San Diego, Calif.

By AUGUST M. WADSTROM,
Deputy.

I hereby certify the above to be a full, true, and correct copy of resolution No. 79152 of the Council of the City of San Diego, Calif., as adopted by said council February 23, 1944.

FRED W. SICK,
City Clerk.
By AUGUST M. WADSTROM,
Deputy.

IN THE MATTER OF OPPOSING THE RATIFICATION OF THE PROPOSED TREATY GUARANTEEING TO MEXICO 1,500,000 ACRE-FEET OF COLORADO RIVER WATER

On motion of Supervisor Rossi, seconded by Supervisor Austin, the following resolution is adopted:

Whereas a treaty between the United States and Mexico is to be brought up before the United States Senate for ratification on January 22, 1945; and

Whereas said treaty guarantees to Mexico 1,500,000 acre-feet of water to be taken from certain dams and reservoirs on the Colorado River, which dams and reservoirs were constructed by the United States for the "beneficial uses exclusively within the United States"; and

Whereas Mexico never at any time, even before the building of Boulder Dam, used to exceed 750,000 acre-feet of water and has no need or use for such volume of water as is set forth and provided for in said treaty; and

Whereas the guaranty and furnishing of such an amount of water to Mexico from the Colorado River and the dams and reservoirs thereon constructed by the United States and the people of southern California would have the effect of lessening the amount of water available to the people of southern California, which, during a cycle of dry years, would create a serious, if not a critical, shortage of water in southern California, Nevada, Arizona, and other States in the United States; and

Whereas we believe it to be the best interests and advantage of the city and county of San Diego, and to their more than 600,000 inhabitants to have some person who is thoroughly familiar with this matter, go to Washington, D. C., to aid and assist Mr. Swing and our Senators in opposing this treaty; now, therefore, be it

Resolved, That the Board of Supervisors of the County of San Diego does hereby authorize David W. Bird, chairman of the board of supervisors, to go to Washington, D. C., to act for and on behalf of the county of San Diego in opposing the ratification of said treaty and to present a certified copy of this resolution to the Senate committee hearing this matter.

Passed and adopted by the Board of Supervisors of the County of San Diego, State of California, this 22d day of January 1945, by the following vote, to wit:

Ayes—Supervisors Austin, Robbins, Rossi, and Howell.

Noes—Supervisors: None.

Absent—Supervisor Bird.

STATE OF CALIFORNIA,

County of San Diego, ss:

I, J. B. McLees, county clerk of the county of San Diego, State of California, and ex officio clerk of the board of supervisors of said county, hereby certify that I have compared the foregoing copy with the original resolution passed and adopted by said board, at a regular meeting thereof, at the time and by the vote therein stated, which original resolution is now on file in my office; that the same contains a full, true, and correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of said board of supervisors, this 22d day of January A. D. 1945.

[SEAL]

J. B. McLEES,
County Clerk and Ex Officio Clerk of the Board of Supervisors.
By M. GIBIAN,
Deputy.

The CHAIRMAN. All right. Who is the next witness?

Mr. SWING. May we now adjourn until 2:30, Mr. Chairman?

The CHAIRMAN. All right. We will recess until 2:30.

(At 12:40 p. m. a recess was taken until 2:30 p. m. of the same day.)

AFTERNOON SESSION

The hearing was resumed at 2:30 p. m., on the expiration of the recess.

The CHAIRMAN. The committee will come to order. What witness have you, Mr. Swing?

Mr. SWING. Mr. Harry W. Horton, attorney for the Imperial irrigation district.

STATEMENT OF HARRY W. HORTON, CHIEF COUNSEL, IMPERIAL IRRIGATION DISTRICT, EL CENTRO, CALIF.

The CHAIRMAN. You may proceed, Mr. Horton. You are an attorney and you want to speak on the provisions of the treaty. You asked for an hour's time. Do you think you can finish in an hour?

Mr. HORTON. I think I can.

The CHAIRMAN. I hope no one will ask him any questions until he concludes.

Give your name, your official connection, and so forth, to the reporter.

Mr. HORTON. For the purpose of the record my name is Harry W. Horton—

The CHAIRMAN. That is your name for any purpose, isn't it?

Mr. HORTON. Senator Connally, I would appreciate it very much if you would let me go ahead and make my statement without interrupting me.

The CHAIRMAN. Are you going to run the hearing?

Mr. HORTON. I am not desirous of running it, but I am making a sincere effort to get my statement into the record.

The CHAIRMAN. I just facetiously assumed that that was your name for all purposes.

Mr. HORTON. To me this is not a facetious subject.

The CHAIRMAN. All right; go ahead and get serious.

Mr. HORTON. My name is Harry W. Horton, and I live at El Centro, Calif. I was admitted to practice in 1915. I obtained my legal training at Stanford University. I have been chief counsel for the Imperial irrigation district for the past 10 or more years, and I am also appearing here as one of the legal advisers of the Colorado River Board of California.

I am addressing my remarks to the subject of the administrative features of the treaty and to the ambiguities in the language of the treaty which I feel, among other things, are such as to make it utterly inadvisable that this treaty be ratified in its present form.

I wish first to go to the question of two Governments, as that provision is contained in article 2. Throughout this treaty there are various provisions wherein it is indicated that the Governments will do this or the Governments will do that or the Governments will make certain studies; that is, the Commissioners will make certain studies and recommend to the Governments.

In article 2 it is provided as follows:

Wherever there are provisions in the Treaty for joint action or joint agreement by the two Governments, or for the furnishing of reports, studies or plans to the two Governments, or similar provisions, it shall be understood that the particular matter in question shall be handled by or through the Department of State of the United States and the Ministry of Foreign Relations of Mexico.

As to that reference, the proponents of this treaty have stated that while it is recognized that all of the matters that are involved in the treaty and all that may become involved in the treaty are subject to the consideration, first, of the Commissioners and then of the two Secretaries of State, there is implied in the treaty a reserve power in Congress to approve or disapprove of what the Commission and the two Secretaries may do; and in that regard their direct statement is that before a project can be carried out, which the two Commissioners may

agree to and the two Secretaries may approve of, where an appropriation is necessary, it must necessarily follow that the House as well as the Senate must act through the making of appropriations for the ratification or approval of those projects.

I submit to you that that is not only not so, but it is directly to the contrary. In the first place, in analyzing this treaty I think the statement was well put by one of the Senators the other day—I do not recall his name—that we have to consider the provisions in the light of the most extreme things that might be done, the greatest possibility of power or the extreme construction of power in the Commissioners or the Commission and the two Secretaries of State. That is particularly in view of the fact that once passed this treaty is not subject to modification or change by the United States of its own volition or by the Congress or by the Senate. It must stand as written until we are released from it by Mexico.

Now, first, on the question of appropriations. It is interesting to note that the State Department itself, and the International Boundary Commission, have taken an opposite view at previous times with respect to the right of the House in considering appropriations to reject the requests of the State Department for appropriations in connection with boundary matters.

In December of 1933, in connection with some boundary work on the Rio Grande River, the matter was before a subcommittee of the House Appropriations Committee on the then pending State Department appropriation bill, and the question of whether a recommendation of the State Department had to be accepted as such by virtue of the fact that it involved a boundary matter, was under discussion; and we find in the record of the hearing this question:

Mr. BACON. In other words, at some time this committee will have to recommend the appropriation of money necessary to complete this work?

Mr. LAWSON. Yes, sir.

Mr. BACON. In furtherance to carry out our agreement?

Mr. LAWSON. Yes; although it is an informal agreement.

A little further along on page 152 of the same record Mr. Oliver, in commenting upon the then pending State Department appropriation bill, asked this question:

Here, again, it seems that in this Boundary Commission we never find any practice of economy such as departments in Washington have been required to follow in reference to separation from the service. About the only separation that occurred during the present fiscal year was one Gager, and now you are asking for his restoration.

Mr. Carr, who was of the State Department, I am informed, stated:

You will find that that is due to the international character of the undertaking and the necessity of working in conjunction with a like commission of another government, doing the work which the treaty requires to be done.

Mr. OLIVER. Of course the international questions involved would not necessarily determine the number of employees we had to place on the roll in order to effectually carry out the declared purposes of the treaty, because the percentage in reference to some of the projects which we are required to consider is very much larger than that the other country required. However, I do not think that is a factor which should be considered as very important from an international standpoint in requiring that we absolutely follow some written arbitrary rule in fixing the number necessary to carry on the work.

The next question is indicative of the State Department's attitude:

No; it would not be a question of your following some arbitrary rule, but it would be a question as to whether we were carrying on the treaty or not. That is

the only point involved. We are under obligations to carry out the treaty. It all comes down to one question, as to how much money it takes to do certain things which are required under the treaty; and the engineer of the Commission, of course, has to be, in the main, the determining mind of what is essential.

So I say to you that the comment made by Mr. Clayton, to the effect that Congress, through its control of appropriations, has an automatic veto power over projects that may be recommended by the Commissioners and the Secretaries of State, is not in keeping with the past position taken by the State Department when asking for appropriations, and not founded in law.

In the next place, they take the position that automatically there is written into this treaty something to this effect, that it must be understood that the United States cannot do anything under a treaty unless and until an appropriation is made.

I submit to you that that position is utterly unsound, is not in keeping with any decision of the Supreme Court of the United States, and that once this treaty is made the United States Government is bound to make any appropriation submitted to it by the Boundary Commission and the State Department, unless it desires to breach the treaty and lay this country wide open to reparations for its breach.

I am not going to take the time in this statement to go into details; but if the committee is interested in the matter of the principles that I pronounce here I will be glad to file with you a brief and detailed statement supporting what I am saying.

So I say to you that that one clause in this treaty is sufficient to condemn the entire treaty, because by its specific language it takes from both the Senate and the House the right to control our internal affairs except through the will and whim of the Commissioner and the Secretary of State, and places those two gentlemen above the Congress of the United States, both in the matter of what they may desire to do in the United States that might be considered by the Commission in keeping with this treaty, and also in the expenditures of the money which they might bind us to not only in the United States but in Mexico.

I next want to take up a phrase that is used throughout this treaty, or, rather, a word, and that is the word "agreement." Commencing in the early pages of the treaty and following throughout until article 24 you will find repeatedly the statement that the two governments agree to do this or that the Commissioners may agree to do that, and it has reference to a large variety of subjects; and in most places in the treaty it is provided that in the matter of agreements, agreements may be carried out by the Commission.

When you get right down to the last analysis of them, except in article 23 and article 24, the word "agreement" is tied to agreements concerning boundary matters. But for some mysterious reason, when we get over to article 23 and article 24, they take out of the treaty the limitation on agreements and do not confine them to boundary or water matters, but leave it wide open.

The Commission is by the specific terms of the treaty, and each of the Commissioners in his own country, by the specific terms of the treaty, is empowered and authorized not only to administer the treaty—that is, this treaty—but certain other existing indicated

treaties and all other pertinent treaties now existent or that may hereafter come into being between the two nations.

You will find tied to and along with the administration of the treaty also the power and privilege to carry out and administer and execute agreements.

I think it is highly important to analyze the word "agreements."

As I say, in many places throughout the treaty it is tied to agreements concerning boundary matters and water, but over in articles 23 and 24 it is not tied to that at all; it is left wide open. And that immediately raises this question. We are all familiar with the fact that there are Executive agreements which have been entered into by the President of the United States and other nations; and those Executive agreements are definitely agreements coming very easily within the purview of the language used in this treaty.

But let us pass for the moment any agreement that the President of the United States might make with the President of Mexico, and come to the question of the power to make agreements by the two Commissioners themselves, with the approval only of the two Secretaries of State, and never to come back to the Senate for ratification, and such agreements have the effect of a treaty in and of themselves.

Throughout this treaty, as I say, specific power to administer, interpret, carry out and execute not only the treaty, but treaties and agreements between the two Nations, is repeatedly referred to; and I would like to read to you from section 24—

Senator DOWNEY. Is it article or section?

Mr. HORTON. Pardon me; it is article, not section—article 24 (c).

Having in mind that article 24 is a catch-all which provides that the power and duties therein described are in addition to the other powers and duties given by the treaty, this is not a limitation; this is an extension of additional powers.

Article 24 (c) reads as follows:

In general to exercise and discharge the specific powers and duties entrusted to the Commission by this and other treaties and agreements in force between the two countries, and to carry into execution and prevent the violation of the provisions of those treaties and agreements.

I do not know why in that section they did not confine agreements or treaties to boundary matters, but in analyzing the power given to the Commission there is a concrete illustration of the fact that the powers of the Boundary Commission and the powers of the two Secretaries of State are not confined either to water or to boundary matters, but are broad enough to include in perpetuity the carrying out of Presidential executive agreements as well as the carrying out in perpetuity of agreements that may be made between the two Commissioners or that may be made between the two secretaries of State, but never be known to Congress and never come back to Congress.

Senator WILEY. And not relating to boundary matters or water?

Mr. HORTON. And not even relating to boundary matters or water.

I am going, now, back again to the position of the State Department and the position of the present Boundary Commissioner and show you that that has been their past interpretation of existing treaties which are not nearly as broad as the terms of the treaty that is proposed.

Senator MURDOCK. May I ask one question?

The CHAIRMAN. Yes.

Senator MURDOCK. What do you construe the term "in force between the two countries" to mean? At present in force, or may it include something in the future?

Mr. HORTON. It could not be limited to the present treaties; that is, treaties presently in force. An over-all reading of the treaty will definitely, I think, convince you, if you are analyzing it from the standpoint now under discussion, that this means whatever treaties and whatever agreements may be in effect from time to time throughout the perpetuity of this treaty.

Senator MURDOCK. And it is your position, as I understand you, that this treaty not only provides the power but contemplates agreements entered into in the future between the two Commissioners, approved by the Secretary of State of the two countries, which may not only involve water rights, but other subjects?

Mr. HORTON. I specifically do, and I will be perfectly frank to make the statement that I think the treaty was so drawn for the specific purpose of accomplishing that in general language, although not making it apparent upon the face of the treaty; and I will give you an illustration of why I think that is so, and I will read to you a portion of the record, and I would like to recite to you an incident that definitely establishes that fact.

In San Diego County the Tijuana which runs out of Mexico past the town of Tijuana and into San Diego County, and goes to the Pacific Ocean, was utilized in part in connection with the sewer system of the city of Tijuana, Lower California, Mexico. Mr. Lawson as Boundary Commissioner had had some conversation with the Mexican Boundary Commissioner concerning their getting together and fixing up a joint sewer system that would take care of the sewage from Mexico and take it to the Pacific Ocean. The matter had been submitted to the Budget committee with a view of an appropriation of about \$120,000, I think it was, being made for that purpose, and the Budget committee turned it down as being not authorized by an act of Congress and having no authority whatsoever in law.

Secretary Hull wrote a personal letter which he gave to Mr. Burnham, then Congressman from San Diego, and Congressman Burnham appeared before a subcommittee of the House Appropriations Committee with a request that this money be appropriated for the sewer project to be constructed by the Boundary Commission, notwithstanding the fact that it had been turned down by the Budget committee.

The matter was heard, but on the hearing the specific question of whether or not there was any treaty to cover anything in connection with the Tijuana River was taken up and discussed, and it was specifically admitted that there was no treaty covering it. It was stated that Mr. Lawson and the Mexican Commissioner had had some discussion about it and had reached sort of a gentlemen's agreement, but it was then pointed out by the subcommittee that there was no authority either by treaty or by act of Congress for it to be done, and the committee turned down the appropriation, Mr. Burnham left, and the matter was a closed incident.

Two years later there appeared in the record the fact that the sewer system had been constructed, and on checking back through the record it was found that Mr. Lawson, as American Commissioner, by agree-

ment with the Mexican Commissioner, had gone ahead and constructed the sewer without any agreement whatsoever, after having been turned down by the Budget committee and the House Appropriations Committee.

They got the money out of P. W. A. leaf-raking money.

So there is a concrete instance of where commissioners could make agreements that are turned down by the House Appropriations Committee and the Budget committee, and the money is spent, and the only authority for it was the fact that the two gentlemen got together and that they were able to get it out of the leaf-raking money then available in the United States.

I want to go a little further than that. I want to give you the concrete language of the State Department and Mr. Lawson as to their position on whether or not they can make agreements which have the effect of a treaty, but which are not in writing; or even if they are in writing, they do not have to come back to the Senate.

I will now read some language that is taken from page 162 of the December 1933 hearing before a subcommittee of the House Appropriations Committee on the State Department's appropriation bill. They got into a discussion of what authority there was for the project in question that they either had obtained money for or were getting money for, and the following occurred:

Mr. OLIVER. You say this is an agreement but not a treaty?

Mr. LAWSON. Yes.

Mr. OLIVER. Was it written?

Mr. LAWSON. Yes.

Now, mind you, here is a written agreement between the two gentlemen that he says is not a treaty—

Mr. OLIVER. An agreement between whom?

Mr. LAWSON. Between our State Department and the Department of Foreign Relations of Mexico.

Mr. OLIVER. That is somewhat in the nature of a treaty, is it not?

And Mr. Carr speaks up in defense of the State Department and says:

An agreement, but not a treaty.

Mr. JOHNSON. It was a formal report of the Commission approved by both Governments; was it not?

Mr. LAWSON. Yes.

Mr. GRIFFIN. The report of the Commission was made to the two Governments and the two State Departments respectively entered into the agreement.

Now, I ask you, is our position sound when this treaty gives the two Secretaries of State and the two Commissioners the right to sit down and enter into any agreement that they may see fit, regardless of whether it relates to boundaries or water—is our position sound? Is it supported by the position heretofore taken by the State Department and the Boundary Commissioner himself?

The CHAIRMAN. I wonder if I might ask you a question?

Mr. HORTON. Certainly, sir

The CHAIRMAN. These transactions that you have referred to that took place in former years: Were they not operating under the boundary treaty between the United States and Mexico?

Mr. HORTON. Certainly they were.

The CHAIRMAN. You did not refer to that; you just said they could make any kind of an agreement about anything in the world they

wanted to. Whatever happened with regard to the Tijuana was under the boundary treaty between the United States and Mexico.

Mr. HORTON. I beg your pardon; that is not correct.

The CHAIRMAN. Was it not across the boundary?

Mr. HORTON. Yes; but there was no treaty whatsoever that gave the Boundary Commission any jurisdiction of any sewer project at Tijuana and there was no act of Congress that authorized or permitted it to be done; and in that regard, your statement is in error. They were not doing it under any treaty.

The CHAIRMAN. Of course the treaty did not mention any sewer.

Mr. HORTON. It did not mention anything concerning Tijuana.

The CHAIRMAN. Did not the Boundary Commission treaty between the United States and Mexico give the Boundary Commissioners, one in the United States and one in Mexico, authority to review that whole boundary and allocate bancos on one side or the other, and all that sort of thing?

Mr. HORTON. That was on the river only; that was confined to the Rio Grande, so far as the banco proposition is concerned.

The CHAIRMAN. What jurisdiction did the Boundary Commission have? It must have had some, because you said that Mr. Lawson was making agreements. What treaty were they operating under? Does it go back to 1933?

Mr. HORTON. The treaty they were operating under in 1933 pertained to the Rio Grande.

The CHAIRMAN. They could not be operating on that as to the Tijuana River?

Mr. HORTON. He did not have any treaty on the Tijuana. That is what I have tried to tell you. He had no treaty and no act of Congress; he had no authority whatsoever.

The CHAIRMAN. What was Mr. Carr testifying about when he referred to that treaty? What treaty was he talking about?

Mr. HORTON. When I was reading what Mr. Carr said I was reading as to another incident on the Rio Grande, and not on the Tijuana.

The CHAIRMAN. I thought you were talking about the Tijuana.

Mr. HORTON. I recited from memory the instance concerning the Tijuana. The matter that I referred to had to do with the Rio Grande when I was reading from the comments that Mr. Carr made.

The CHAIRMAN. All right; proceed.

Mr. HORTON. As to another project at Nogales, they put in a surface rain-water project which was paid for principally by the United States, and that particular proposition was done simply by agreement, and I think there were questions raised, and Mr. Oliver stated:

Is that also pursuant to a treaty between the two Governments?

Mr. LAWSON. An agreement only.

Mr. OLIVER. But following a treaty which was previously made?

Mr. LAWSON. Yes, sir.

You can search the record high and low, and no agreement that has ever been made in connection with any of these projects, whether by treaty or authorized by treaty or whether made in spite of it, ever came back to the Senate for ratification or hearing or approval and they had no voice in them and, so far as anything in the record is concerned, they did not even have any knowledge that it had been done.

Senator MURDOCK. Is it your position, Mr. Horton, that every agreement that might be entered into between the two Commissioners, regardless of detail, or significance, or importance, must come back to the Senate for approval?

Mr. HORTON. My position on that is this, Senator: That every contract that the United States or any of its departments makes today with its own citizens, even down to the matter of paying for a power bill on one of the Army bases, contains a provision that the contract is subject to there having been an appropriation made. If, in connection with our own internal affairs, it is sufficiently advisable for Congress to pass upon those matters, if it is sufficiently important for our own Government to control appropriations for its internal affairs, it is doubly important that a treaty be so drafted that Congress has complete control of the purse strings, and that those two Commissioners may not go out, simply with the approval of the two Secretaries of State, and enter into an agreement which may commit us for \$2, or \$2,000,000, or \$2,000,000,000, whether it is to be spent in Mexico or the United States, when Congress has no control over it.

Yes; I think it is highly important that anything that those Commissioners may do in the way of expenditure of money be approved in advance, just the same as any other department of our United States Government has to have appropriations approved in advance before they can do such work in the United States. I see no reason for our permitting the expenditure of money in Mexico or in the United States for the benefit of Mexico without Congress first having and securing the say so on it.

Senator MURDOCK. You have made made an argument of what you think the policy of Congress should be. My question is, Is it your position that under a treaty no powers can be delegated to the Commissioners of the two countries to enter into agreements as to details, little things of minor importance, such as you referred to here in the way of a sewer construction and things of that kind?

Mr. HORTON. No. It is not my position that a treaty cannot be drawn which would give Congress proper control. I do not take that position. I contend that this treaty has been deliberately so drawn as to take away from Congress any possible control and to leave it entirely within the discretion of the Boundary Commissioner and the Secretary of State.

Senator MURDOCK. All right. That is all.

Senator WILEY. To what extent?

Mr. HORTON. To the extent that there is nothing in the treaty that gives Congress or the Senate any voice in approving or disapproving any agreement that may be made between Mexico and the United States hereafter, dealing with any of the major subjects involved in this treaty.

I go even further than that, that the two Secretaries and the two Commissioners may make agreements that have nothing to do with boundary waters, that may go clear into our internal affairs in this country, and by the terms of the very agreement they make, retain jurisdiction by stipulation for 10, 20, 30, 40, 50 years' time.

Senator WILEY. You feel that there is no money limit to which they might go if it would authorize these two Commissioners to interfere with the property rights of our own nationals?

Mr. HORTON. I do. I will say that there is no money limit whatsoever placed on them, and I will say further that by agreement of the two Commissioners and with the approval of the two Secretaries of State, they might decide that upstream on the Colorado River, and even on some of its tributaries, if it is advisable in connection with the carrying out of the functions of this treaty, a certain project be put in, or that one not be put in, their determination would be binding upon the United States Government insofar as that project is concerned.

Senator DOWNEY. May I ask a question?

The CHAIRMAN. Yes.

Senator DOWNEY. Mr. Horton, do you mean by that that if the Boundary Commission agreed that it was necessary to put in some reservoirs in the upper basin States to carry out what they considered the objects of this treaty, they would have the right to commit our Government for expenses in connection with that?

Mr. HORTON. I mean exactly that, and I am fortified in that particular proposition by a protocol that has been signed between the two Governments. I might just as well touch upon that, because it fits into the matter we are now discussing.

At the time this main treaty was made known to the public, in the latter part of February, I believe it was, or the early part of March 1944, and we were able to get a copy of the treaty and study it, after lots of study by many people we came to the conclusion that the International Boundary Commission as such had certain rights and jurisdiction to go anywhere in the Colorado River Basin, for instance, so far as the Colorado River is concerned, and there make diversions and impose their will upon this Government. Those who were acting as the proponents of the treaty pooh-pooched the proposition that the Commission or the American Commissioner, insofar as the treaty terms were concerned, had any right or power to go away from the boundary. In other words, it was their position that by implication the treaty confined the jurisdiction and powers of the Commission or the Commissioners to matters which were located on the land boundary, or in the limitrophe section of the river, which means simply a 20-mile stretch—

Senator WILEY. Who contended that?

Mr. HORTON. Well, Mr. Lawson and Mr. Tim; and I remember having a very heated discussion with Mr. Tipton about that.

Senator WILEY. You could write language that would limit it to that, very easily.

Mr. HORTON. It could be done very easily, if it was intended, but it has been so worded that it has exactly the opposite effect and, I claim, intentionally.

In connection with this protocol the amazing thing that comes out is the frank admission upon the part of the two countries that the treaty itself was intended to reach beyond the limitrophe section of the river and the boundaries, because by the protocol they distinguish between the boundary areas and the nonboundary areas up into the upper reaches of the river.

The protocol was in part an attempt to settle a squabble between the Bureau of Reclamation and the State Department, and in part as a confession of the fact that the Government of Mexico has a voice in our own internal handling of our affairs away from the boundary.

I will explain what I mean by that.

Senator WILEY. Do you have the language of it?

Mr. HORTON. I have, and I will be glad to read it. It reads as follows:

The Government of the United States of America and the Government of the United Mexican States agree and understand that—

Wherever, by virtue of the provisions of the treaty between the United States of America and the United Mexican States, signed in Washington on February 3, 1944, relating to the utilization of the waters of the Colorado and Tijuana Rivers and of the Rio Grande from Fort Quitman, Tex., to the Gulf of Mexico, specific functions are imposed on, or exclusive jurisdiction is vested in, either of the sections of the International Boundary and Water Commission, which involve the construction or use of works for storage or conveyance of water, flood control, stream gaging, or for any other purpose, which are situated wholly within the territory of the country of that section and which are to be used only partly for the performance of treaty provisions, such jurisdiction shall be exercised, and such functions, including the construction, operation, and maintenance of the said works, shall be performed and carried out by the Federal agencies of that country which now or hereafter may be authorized by domestic law to construct, or to operate and maintain, such works. Such functions or jurisdictions shall be exercised in conformity with the provisions of the treaty and in cooperation with the respective section of the Commission, to the end that all international obligations and functions may be coordinated and fulfilled.

The works to be constructed or used on or along the boundary, and those to be constructed or used exclusively for the discharge of treaty stipulations, shall be under the jurisdiction of the Commission or of the respective section, in accordance with the provisions of the treaty. In carrying out the construction of such works the sections of the Commission may utilize the services of public or private organizations in accordance with the laws of their respective countries.

This protocol, which shall be regarded as an integral part of the aforementioned treaty signed in Washington on February 3, 1944, shall be ratified and the ratifications thereof shall be exchanged in Washington. This protocol shall be effective beginning with the day of the entry into force of the treaty and shall continue effective so long as the treaty remains in force.

So you see what happened was that, insofar as the Boundary Commission is concerned, it kept and retained exclusive jurisdiction over any works in the United States that were used exclusively for treaty performance or any works located on the boundary, although used only in part. But the amazing thing is that if the Bureau of Reclamation or other Federal agencies were the only ones that had anything to do with any works or structures away from the boundary, and they were used only in part or incidentally in the performance of this treaty, why was it necessary by this treaty to designate that some Federal agency other than the Boundary Commission should have jurisdiction away from the boundary?

The reason is perfectly apparent, and it is this: It was the intention, and still is the intention, of the Commission and the American Commissioner in the United States to extend his supervisory jurisdiction and his clearance powers and his veto powers over the entire river system.

But to my mind one of the most impelling things about this protocol is this question of who may operate works inside the United States that may or may not be used in connection with the performance of the treaty. That was certainly a dominant problem within the control of the United States. But when this protocol was passed I found out that our own State Department and our own Boundary Commission had definitely set a precedent and had gone on record that before we in the United States could determine whether the Bureau of Reclamation or some other of our own Federal agencies

should handle projects within the United States that might be useful in connection with the treaty, we have to go to Mexico and get them to agree about it by a protocol to the treaty.

We have a concrete admission by our own State Department and a precedent to say that the Government of Mexico may come back at any time when the Congress of the United States attempts to delegate to the Bureau of Reclamation, to the Army engineers, to the U. S. G. S., or any other agency that may be formed, authority to carry out a function in connection with river control or storage in the United States—the Mexican Commissioner says: "Wait a minute; don't do that. That interferes with the performance of this treaty, and that is delegated to the Boundary Commission. We have powers over that. Although our territorial jurisdiction is limited to each side of the line, we have a veto power. We have a voice in the amount of water that is involved." Mexico can say that the first protocol we wrote as an amendment to this treaty specifically set up the fact as to our own internal affairs in the United States, as to who shall handle the water in performance of this treaty, it had to be approved by us, and we signed it.

The CHAIRMAN. Was not the necessity for the protocol based on these facts—that under the treaty the control of the works in Mexico was under the Mexican Commission and control of the works in the United States was under the control of the American Commission, and if we did not have the protocol we would be bound to adhere to that? On the other hand, the Reclamation Service felt that it ought to have a hand in the works within the United States in order to keep faith with Mexico, but at the same time handle our domestic affairs as we saw fit, and we had to adopt the protocol. Is not that true?

Mr. HORTON. You are partly right and partly wrong. I would like to answer your question, because I think it is a very pertinent one.

The CHAIRMAN. You admit, do you not, to start with, that under the treaty the control and the maintenance and handling of all the works in the United States were under the United States Commission?

Mr. HORTON. I will answer that question in this way: So far as the original treaty was concerned, it is my opinion that we have delegated to and vested in the Commission in the United States and, except with certain limitations, the United States Commissioner was given full and complete authority over the entire river basin as to each one of the involved rivers.

The CHAIRMAN. I do not care to pursue it, if you take that view. I will withdraw my question.

Mr. HORTON. I am going to answer the other half of it.

The CHAIRMAN. You need not answer it.

Mr. HORTON. I want to get it into the record, because I think it is important.

The reason for the protocol was because apparently Mexico realized that she had been extended some power over our own internal affairs; we partially settled a scuffle between the Bureau of Reclamation and the Boundary Commission. But the point is that whoever drew it, instead of extending exclusive jurisdiction to the Bureau of Reclamation and other Federal agencies, has made the matter just

about as bad as it was before. So far as the mechanics of building and the mechanics of operating a structure in the United States, used only in part in connection with treaty performance, the protocol does extend the right to the Bureau of Reclamation and other Federal agencies; but if you will turn to your black book which was supplied at the commencement of this hearing by the State Department or the Boundary Commission, I don't know which—at least, the proponents of the treaty—you will find therein contained the assertion that the whole business, so far as the river basin is concerned, and the functions of all of these agencies of the United States, is funneled. That is the word they use—funneled through the Commission and the American Commissioner; and in another place you will find they make the statement, in substance, to this effect—after commenting on the fact that the Bureau of Reclamation has power to do this and will construct and maintain certain projects, they go on to state that of course this will be subject to the final approval, or over-all jurisdiction, or something of that kind—I don't remember the exact words—of the American Commissioner.

So, I submit to you that if there were nothing else that would make this treaty an unthinkable proposition it is that provision in there relative to Mexico's having jurisdiction over agreements. That in itself is enough.

Agreements? What kind? Executive? I do not know what other sorts of agreements there may be that from time to time may be permitted; but we do definitely know that there are two types of agreements that are made, that can be made without the approval of the Senate and, once made, are binding. That is executive agreements. But now by this treaty we have a Boundary Commission and a Secretary of State making agreements.

Senator DOWNEY. Mr. Horton, let us assume that the Boundary Commissioners of both nations would have reached an agreement, that there is an implied understanding in this treaty that the water that goes down to Mexico must have only a certain degree of salinity, or have a certain degree of usability. Do you think, based upon that assumption, if the Commissioners reached the further conclusion that in order to carry out the terms of the treaty as they find they should be they would have the power to exercise control of the waters in the upper basin States by which they could declare what degree of salinity could be discharged by the upper-basin States? [Note: Question misunderstood. See page 798 and note there.]

Mr. HORTON. I certainly do, Senator. Not only that, but I will go even further. I will go on record with this statement—that under the terms of this treaty, and with the protocol, the two Commissioners and the two Secretaries of State are given sufficient power to even increase the guaranteed minimum amount as between the two Nations and without the matter coming back to the Senate or being heard of in the Senate or without the Senate having a chance to ratify it. Once this treaty is ratified it is beyond the recall of this Senate or the Congress of the United States. Once you have tied yourselves down to this treaty you are doing something that cannot be undone without the approval and consent of Mexico.

Senator DOWNEY. As I read this protocol, and particularly the language in line 4, at the top of page 3, referring to certain works and

the powers of the Boundary Commission—"which are to be used only partly for the performance of treaty provisions"—that does seem to restrict, as you have pointed out, absolute powers to the Boundary Commissioners to do anything they want in the Colorado River Basin, so far as those acts are wholly performed to carry out the treaty provisions as they would interpret them. Is that correct?

Mr. HORTON. I think that what that means is this—that so far as any structure that is used only in part for treaty performance, with the taking of title and the taking of physical possession and having the workmen employed by the Commission on the project, the Boundary Commission is under obligation to leave that to handling by the Bureau of Reclamation or other appropriate Federal agency. But may I caution you on this—that that does not take from the jurisdiction of the Boundary Commission; and a reading of the black book will clearly disclose that they so interpret it; that does not take from the International Boundary Commission or from the American Commissioner of the United States the supervisorial powers and dictation as to how those various structures in the United States operated by the Bureau of Reclamation shall be carried on and how those works shall be conducted in order to comply with the treaty.

Senator WILEY. According to testimony here we were told, I think, that the Government has in mind for years ahead the creation of new reservoirs, the purpose of which is to make available this water when needed in the arid sections. Now, supposing that pursuant to those plans this treaty now becomes law and the protocol becomes the law of the land and it is thought best to build a certain reservoir, would you interpret it to mean that if there was a difference of opinion there was no harmony between the Mexican and the United States representatives with reference to the building of the reservoir, and it could not be done?

Mr. HORTON. I mean to say this—that the Mexican Commissioner and the Mexican Government would have a certain amount of control over whether that project could be built or could not be built. The particular objections that might be raised would in large measure determine how far Mexico's objections might go toward the preventing of it.

If I may, I would like to go into that particular proposition and just how I think it would work, and maybe that will answer your question.

Senator WILEY. You mean that the treaty has the possibility of our conveying part of our sovereignty away?

Mr. HORTON. Exactly that. We have already done it; and one of the most convincing things that exist is the fact that in the protocol we have to get Mexico's consent to permit our own Bureau of Reclamation to operate the projects that we use only in part for the performance of the treaty. You cannot laugh that off. There is something in black and white as a precedent between the two nations, as I construe it.

But if I may follow up your thought, it requires going to the proposition of the interpretation of this extraordinary drought matter. I think I can point out to you just how far reaching the influence of the Mexican Commissioner may be in the United States.

Senator MURDOCK. Before the witness goes into some other subject, I would like to ask a question. In answer to Senator Downey, of

California, you said that in your opinion under the treaty the Commission would have jurisdiction to control the salinity of the water delivered by the upper basin into Lake Mead. [Note: Question misunderstood, see page 798 and note there.]

Mr. HORTON. I did say that, and I will back it up.

Senator MURDOCK. Is that statement made with the same sincerity that you have made your other statements?

Mr. HORTON. Senator, I am not here to publicize anything for effect. I mean every single, solitary thing I say.

Senator MURDOCK. I just wondered if you wanted us to give the same weight to that statement that you expect to be given to your other statements.

Mr. HORTON. I cannot answer as to what weight you may desire to give to any of my statements. I am in all sincerity stating what I absolutely believe to be true.

Senator MURDOCK. You make that statement just as sincerely as you did the others, and, conversely, the others just as sincerely as you made that?

Mr. HORTON. Yes, sir.

Senator MURDOCK. That answers my question.

Mr. HORTON. I will tell you why. The provision having to do with this question is contained in article 10 that the proponents of this treaty have referred to as a definite provision that Mexico must accept water which is utterly unfit for use.

Article 10 relates to the allotment of Colorado River water to Mexico and says:

Of the waters of the Colorado River, from any and all sources, there are allotted to Mexico—

and then follows an allotment of 1,500,000 acre-feet. Subdivision (b) contains a provision authorizing them to use an additional 200,000 acre-feet at the discretion of the United States section, and then there is a provision with respect to extraordinary drought.

The statement was made that the words appearing in the first line of article 10 were put in there for the specific purpose of relating to the quality of water. I think I am correct in stating that, in substance, the proponents take the position that there will be somewhere around 900,000 acre-feet of return flow. Mr. Tipton was quite frank in his position with respect to the saline quality of that water, and his statement was that he had been present at conferences of the negotiators of the particular treaty before us at El Paso, where they spent 43 days in discussing and going over the treaty and arriving at its terms and language, and he advised us very pointedly to the effect that the precise words "from any and all sources" were put in this treaty at the place where they are with the intent and purpose and the specific understanding that we would require Mexico to take this return flow regardless of the quantity of salt that might be in it.

Senator MURDOCK. It seems to me that the testimony of Mr. Tipton was that that clause in article 10 referred to the source of water; that is, regardless of the source they could be supplied from in filling this allotment to Mexico. Then he went to the other clause, "for any purpose whatsoever," as having to do with the quality of water. Is not that the statement he made?

Mr. HORTON. He made two statements. He attempted to justify his position that Mexico was and would be required under the treaty to take salt water or water unfit for use. But I want to call your attention to an additional statement that Mr. Tipon made.

The CHAIRMAN. I want to call your attention to part of the language of article 10 (b):

Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system, for any purpose whatsoever, in excess of 1,500,000 acre-feet.

Mr. HORTON. I think that phrase is the same one that the Senator just referred to.

The CHAIRMAN. I beg your pardon.

Mr. HORTON. Mr. Tipton in analyzing that has made the statement that "any and all sources" was put in there for the purpose of having reference to the salt content. Then he referred to the provision that Senator Connally and Senator Murdock have just referred to in subdivision (b) of article 10; but on cross-examination, if you want to call it such, he was asked why, if that was put in there for that particular purpose, we had not been open and frank enough to put in a provision, "without regard to quality," so that you could interpret on the face of the treaty a definite guarantee upon the part of Mexico to take that water regardless of its quality.

I am not going to pretend that I can give you the exact words, but I am going to pretend that I can give you the correct substance of his statement.

He first made the statement, in answer to why "without regard to quality" had not been put in there, to the effect that if it had been written in there the Mexican Congress might not have approved the treaty.

The CHAIRMAN. Does not the language of the treaty go over everybody's testimony?

Mr. HORTON. Yes; but it does not say "without regard to quality."

The CHAIRMAN. Yes, I know; but it says not more than 1,500,000 acre-feet from any source whatsoever or for any use whatever.

Mr. HORTON. The treaty reads what it reads; but there is nothing in there that requires Mexico to take water that is unfit for use.

To go a little further on this proposition of salt water, after that statement was made by Mr. Tipton he backed up to this extent, that the reason that the Senators in Mexico might not take the treaty if it had the provision in there "without regard to quality," was the fact that they did not know enough about the proposition to pass on it and might turn it down.

I want to go back to January, 1944, in Salt Lake City, when Mr. Tim of the State Department appeared before the Committee of Fourteen and Sixteen and for the first time made known in generalities the terms of this treaty. The specific question was asked of Mr. Tim—and the meeting was taken down in shorthand and it has been written up, and edited by Mr. Giles—and the transcript contains this question of Mr. Tim, in substance:

Was there any discussion between the United States and Mexico concerning the salt content of the water that Mexico would be required to take?

And Mr. Tim's statement was this, in substance:

We had quite a little trouble with them. We had quite a little discussion, but we evaded the issue.

Now, gentlemen, are we going, in a country that is supposed to play the game aboveboard, to enter into a treaty committing Mexico to the taking of water that is unfit for use by the use of the words "from any and all sources or for whatsoever purpose," when the only thing we have before us is a conglomeration of contradictions between the very men that claim they were in on the negotiation of the treaty, one man saying they had trouble with them, but evaded the issue, and the other man saying that the reason they did not put words in there that clearly indicated the facts was that they were afraid that the Congress of Mexico would not ratify the treaty?

To my mind, that is double-dealing of the worst kind and calls for an investigation by somebody of the conduct of our own State Department in attempting to write a treaty which they say before this committee requires the taking of water of any quality, and at the same time they tell you that they evaded the issue and that they are going to "slip it over" on Mexico.

Now we come back to your proposition of whether or not these Commissioners have any jurisdiction over the saline quality of the water.

Senator MURDOCK. You said it was delivered by the upper basin into Lake Mead?

Mr. HORTON. Into Lake Mead? Oh, pardon me, Senator. I misunderstood your question. [See following concerning previous questions misunderstood.]

Senator MURDOCK. It was not my question; it was Senator Downey's question. He referred particularly to whether or not the Commission would have any jurisdiction over the saline content of the water that was delivered by the upper basin into Lake Mead.

Mr. HORTON. Oh, no, Senator; I am sorry. I did not understand that to be Senator Downey's question.

Senator DOWNEY. Yes; it was my question.

Mr. HORTON. I am sorry. I did not understand the question. I intended in my entire remarks with respect to the saline quality of the water to refer to the water that Mexico would have to take in the limithrope section of the river. I am very sorry that I missed that. I hope that it is perfectly clear now that I did not have any reference to the quality of water to go into Lake Mead.

Senator WILEY. I understood it the way you did, sir, and it shows how minds may differ. I understood that you were talking about the saline quality of the water that was to be delivered to Mexico.

Mr. HORTON. That is what I understood the question to mean. I am very sorry to have caused the confusion.

Now, on the question of the saline quality of the water—I do not know whether that is a good engineering term or not, but it is the best I can do—

Senator MURDOCK. You can say saline content, if you want to.

Mr. HORTON. To show you that the Commissioners have the power to adopt various means to get the largest quantities of water and to deal with the salt content of the water, I think it might be helpful to you if I would place before you the provisions of this treaty which vests in the Commission these extremely broad powers. In other words, throughout this treaty you will find that it gives unrestricted power, and without qualifications to tie it down. Over in another place there is another broad amount of power, but when you get down to article

24 they really "go to town." I have extracted from the treaty certain portions indicating the powers contained in the treaty, and if you will bear with me a minute I will read it into the record where it will appear at once place and where you can get a composite view [reading]:

The application of the present treaty, the regulation and exercise of the rights and obligations which the two Governments assume thereunder, and the settlement of all disputes to which its observance and execution may give rise are hereby entrusted to the International Boundary and Water Commission, which shall function in conformity with the powers and limitations set forth in this treaty.

That is from article 2.

The duties and powers vested in the Commission by this Treaty shall be in addition to those vested in the International Boundary Commission by the convention of March 1, 1889, and other pertinent treaties and agreements in force between the two countries except as the provisions of any of them may be modified by the present treaty.

That is also from article 2.

The two Governments shall conclude such special agreements as may be necessary to regulate the generation, development, and disposition of electric power at international plants, including the necessary provisions for the export of electric current.

That is from article 19.

Each section of the Commission shall determine the extent and location of any private property to be acquired in its own country and shall make the necessary requests upon its government for the acquisition of such property.

That is from article 23.

Each Government shall retain through its own section of the Commission and within the limits and to the extent necessary to effectuate the provisions of this treaty, direct ownership, control, and jurisdiction within its own territory and in accordance with its own laws, over all real property—including that within the channel of any river—rights-of-way and rights in rem, that it may be necessary to enter upon and occupy for the construction, operation, or maintenance of all the works constructed, acquired, or used pursuant to this treaty (art. 23, p. 22).

The International Boundary and Water Commission shall have, in addition to the powers and duties otherwise specifically provided in this treaty, the following powers and duties:

(a) To initiate and carry on investigations and develop plans for the works which are to be constructed or established in accordance with the provisions of this and other treaties or agreements in force between the two Governments dealing with boundaries and international waters; to determine, as to such works, their location, size, kind, and characteristic specifications; to estimate the cost of such works; and to recommend the division of such costs between the two Governments, the arrangements for the furnishing of the necessary funds, and the dates for the beginning of the works, to the extent that the matters mentioned in this paragraph are not otherwise covered by specific provisions of this or any other treaty.

(b) To construct the works agreed upon or to supervise their construction and to operate and maintain such works or to supervise their operation and maintenance, in accordance with the respective domestic laws of each country. Each section shall have to the extent necessary to give effect to the provisions of this treaty, jurisdiction over the works constructed exclusively in the territory of its country whenever such works shall be connected with or shall directly affect the execution of the provisions of this treaty.

(c) In general to exercise and discharge the specific powers and duties entrusted to the Commission by this and other treaties, and agreements, in force between the two countries, and to carry into execution and prevent the violation of the provisions of those treaties and agreements. The authorities of each country shall aid and support the exercise and discharge of these powers and

duties, and each Commissioner shall invoke when necessary the jurisdiction of the courts or other appropriate agencies of his country to aid in the execution and enforcement of these powers and duties.

(d) To settle all differences that may arise between the two Governments with respect to the interpretation or application of this treaty, subject to the approval of the two Governments.

On that last proposition, we say that that one sentence right there gives the commission absolute jurisdiction to sit down and talk over the question of salt content; even under the language contained in the treaty by way of interpretation in the matter and determine whether they should have more water or should be required to take water that is utterly unfit for use, and to make such adjustment concerning the matter as they may see fit.

Continuing, not from article 24, but from others: I have read those in section 24; I am now going to section 25:

* * * The commissioners, within the limits of their respective jurisdictions, shall execute the decisions of the commission that are approved by both Governments.

Senator DOWNEY. You said "sections"; you meant "article"?

Mr. HORTON. Pardon me. Where I say "section" I do mean "article."

If you will take those provisions in composite form and sit down and read them over, you will see that this commission is given unlimited power. We do have to refer to the protocol to the extent that the State Department has attempted to pacify the Bureau of Reclamation and let the Bureau of Reclamation handle the mechanical operations, construction, and maintenance of works that are used only in part for the performance of the treaty. But on that let me point out another thing to you. The language of the pertinent phrase contained in that protocol is what is called a negative pregnant; that is, there is a hidden proposition in there that is eliminated, or rather left present by the lack of any reference to it.

As to those projects, wherever they may be in the Colorado River Basin that are operated by a non-Federal agency or are operated by some State agency, irrigation district, or something of that kind, the language in the protocol does not surrender the jurisdiction of the boundary commission; it still has that over-all jurisdiction that is vested in it by the original treaty. That was done in the protocol in an attempt to pacify the Bureau of Reclamation, and what they actually did was to say to the Bureau of Reclamation: You can handle the mechanics of the thing, but we will tell you what to do and how to do it.

Now, on the question of the use of these over-all powers by the commission and the commissioners, I realize that there are provisions contained in the treaty which circumscribe the territorial jurisdiction of the Mexican commissioner in the United States; notwithstanding that, he is left with certain influences and certain powers by virtue of veto and what he can approve or disapprove of the commissioner doing in treaty performance, which gives him powers in the United States. A statement was made by Mr. Clayton that is rather interesting and leads to the query of what finality there is to the act and conduct of the commission or the American commissioner. His statement was to the effect that the American commissioner or American section was subject to suit in the United States and when he in-

fringed upon the properties of private individuals he could immediately be enjoined and that there was in effect no finality to their decisions; everything was up to the local courts to determine. I want to go into that.

In the first place, in Article 2 of the treaty, this commission is given the status of an international body in so many words. I did some research work in trying to find out what an international body is and what the effect of that is. Mr. Clayton says that the effect of making the commission an international body is, among other things, to preclude it from being sued. It is not subject to suit. You will find that in his testimony. But he immediately said that the American commissioner was subject to suit.

Well, gentlemen, I submit to you that that is not so. If the commission, which is made an international body, is by the terms of the treaty composed of two men, one an American and one a Mexican, then you cannot sue half of an international body that is not subject to suit. So I think Mr. Clayton is entirely in error there. I submit for your consideration that inasmuch as Mr. Clayton was so prompt in his response as to the purpose of that phrase, "international body," in all probability the term was used for the very purpose of removing from the jurisdiction of the United States courts the American commissioner so that he would not be subject to suit.

I should like to give you a little review of the commission's own ideas as to their powers and jurisdiction. I think that that can best be done by reciting to you an incident and a case. The commission has had jurisdiction of the Rio Grande through its different treaties, and in one of those treaties it was given jurisdiction to determine where the international boundary line was in the meandering river. In another, it was given jurisdiction of channel rectification.

A Texas ranch company that owned some land in Texas and had a pumping plant on the edge of the Rio Grande saw that the course that the river was taking was such that in a short length of time their pumping plant would be washed away and they would be left without a source of water supply. So they went upstream a short distance and put in a jetty that threw the stream over, away from their pumping plant. A flood came along and channelized the river in accordance with the jetty and left their pumping plant on their own property. The case came to be known as the *Horcon case*.

When that happened, the Mexican landowner, on the other side of the river, complained to the Mexican Commissioner and to the commission, and predicated upon that complaint the commission took the matter up with him and determined the case. In determining it, they decided that the Texas ranch company had violated the terms of the treaty, in that they had interfered with the course of the river. They determined that the Mexican landowner had been damaged in a specified monetary amount.

The question came as to what jurisdiction the Commission had and how far-reaching the jurisdiction of the Commission was in the matter of hearing and determining that case and rendering some sort of judgment. The Commission was apparently desirous of rendering judgment on four points: First, an injunction against any change of the channel; second, rendering a monetary judgment in the sum of about \$5,000 against the Texas ranch company; third, the possibility

of invoking some penalty against them; and I have forgotten what the other one was, now. In any event the question of the extent of the Commission's jurisdiction was submitted to the Solicitor General of the United States by the International Boundary Commission. They submitted the four points and the Solicitor General ruled that the Commission, under the limited powers contained in that particular treaty, which are nowhere nearly as broad as those contained in this treaty, had the right to issue an injunction to enjoin the operation of the Texas company in connection with that jetty. He held that they did not have the right to issue a money judgment against them or to put them in jail.

The matter went from the Solicitor General of the United States to the Attorney General of the United States. His ruling was that they better apply to the courts to enforce their determination. In connection with the matter of applying to the courts, it is recited in Dr. Tim's book that the Government won the case. As a matter of fact, the Texas company went into court and confessed judgment, and there was no contest over the matter. So we were not benefited by any decision of the court other than the judgment.

Senator WILEY. What that a Federal district court?

Mr. HORTON. That was a Federal district court, in which they brought suit in Texas.

Oh, that there is an interesting point that did not come up for discussion in the opinion of the Solicitor General, and that is the question whether when they did go into the United States district court, they went in to sue on the merits of the case or to sue on the determination of the commission; in other words, whether the Commission's determination had the effect of judgment, and all you did was go into Federal court and sue on the determination of the Commission.

Senator WILEY. Did the pleadings set up the determination of the Commission.

Mr. HORTON. The pleadings did set up the determination of the Commission.

Now, we come to an interesting proposition on that. There is cited in Dr. Tim's book a case in 2 Petters, an old United States Supreme Court decision to the effect that the decision of the Commission is final and binding upon the courts; in other words, that the courts have no review of that; that they simply act as an instrumentality to enforce it.

There was one case that went before the Texas courts where the decision was against a resident of Texas and in favor of a resident of Mexico and the local Circuit Court of the United States said that the Commission did not have anything to do with that, and they were not going to pay any attention to the Commission's decision; they would hear and determine the matter on its merits. But that had a little local flavor.

Recently before the Supreme Court of the United States in the case of *Z & F Corporation v. Hull*, our previous Secretary of State, Mr. Justice Black wrote a decision "smack bang" on the question of whether or not a decision of a commission approved by the State Department as to matters committed to it were binding upon the court and he held that they were.

Gentlemen, here is what we are confronted with in this treaty: We are confronted with the proposition that there is here set up not only

an executive agency and an administrative agency; but by the very terms of the treaty, which gives it power and jurisdiction to determine what the treaty means and then to determine its application, you have extended to it judicial powers.

I want to go back to the *Horcon case* for this reason: The language of the Attorney General of the United States and the language of the Solicitor General of the United States in passing upon the question of whether or not the Commission could issue an order to put a man in jail or could enter a money judgment, said that there was not in that treaty a provision which gave the Commission the power to execute its decisions. So they would have to go to the court and get the court to do it.

What do we find as to whether or not Commissioner Lawson profited by that decision and has fully protected himself in the power to go out and not have to use the court in the matter of enforcing determinations? I want to point out to you article 25. If you will turn to page 24 of the treaty, you will find the following language:

* * * The Commissioners, within the limits of their respective jurisdictions, shall execute the decisions of the Commission that are approved by both governments.

In other words, if you will go back to that *Horcon case*, and if you will go back to the Attorney General's and the Solicitor General's rulings that the Commission could not put a man in jail and could not render a money judgment and could not do things of that kind, but that it could enjoin a man from doing things, because the treaty did not contain a specific authorization to execute its decisions, and then come back to this treaty, you will see why that specific provision was put in there. In other words, it was put in there for the very purpose of meeting the objection that was raised by the Attorney General and the Solicitor General as to the power of the Commission to execute its decisions.

So, I want to leave in your minds this proposition: That when you are considering this treaty as applied to your own State, you had better consider it in the light of the fact that this Commission and the American Commissioner can arrive at some decision, with or without hearings, and then apply to the court to enforce it, and there will be no defense to it, because the court will simply be executing the judgment of the Commission.

I am coming back to the proposition that this treaty is in perpetuity so far as our power to change it is concerned. Do you not think that is going a little bit too far, when you realize that Congress is not able to step in and rectify conditions that may from time to time come up and, with respect to our own internal affairs, protect us? Is it not going a little too far when by treaty we put into the hands of this Commissioner and this Commission, one of whom is a Mexican, power to render a decision which may be binding upon our United States courts?

Senator MURDOCK. Have you checked other treaties to find out whether the use, as is used in this treaty, of the term "international body" is the first time it has been used?

Mr. HORTON. Frankly, I have not found it in any other treaty. I do not mean to say finally that it may not be in any other treaty, but I have not found it in any other treaty. But the point I make of it is that today, when naturally the State Department is going

to take the position most likely to produce a favorable result to them on the part of the Senate and of this committee—if they are going to admit even today that the commission is without jurisdiction of the courts, and cannot be sued, it is a definite indication that if a treaty has been ratified and they are free to shake themselves and strut their feathers they are not going to back up and contend any less at that time.

Senator MURDOCK. Have you checked to see whether this statement here—"shall execute the decisions of the Commission"—is at first impression—

Mr. HORTON. I have done some checking on that. As a matter of fact, Senator, I was unable to get hold of the records of the *Horcon case* and go into them until just recently. I never even saw the implication of that—"shall execute the decisions of the commission"—until I got into the records of the *Horcon case* in the Congressional Library and there read the language with respect to the lack of any specification in the treaty of the right to execute them.

I saw that in this treaty, and it immediately had some force and meaning of its own. Now, if it would be your desire that I make some research on that, I should be mighty happy to do it.

Senator MURDOCK. I am not a member of this committee, but it seems to me, Mr. Chairman, that it is important that we know whether those terms have been used heretofore.

Senator WILEY. I got the inference of the Black decision, from what you said—of course you did not give us any of the facts—to be to the effect that it went away beyond the *Horcon case* and gave the power to the Secretary of State without any need of specifying what you have been talking about as necessary in the treaty.

Mr. HORTON. I do not want to leave any false impression. I do not mean to say that the Black decision says that the commission could put a man in jail or render a money judgment. That is not the point. The Black decision is authority for this: That the decision of a matter given to the State Department for decision is binding upon the courts. Of course, it was not a case involving a treaty. It did not involve a matter like this. But it is an authority, and a recent one, to the effect that where, by legislation or treaty, there is vested in the State Department the matter of making a factual determination, then that determination by the Secretary of State is binding upon the courts.

That is the only inference I intended to leave; I do not want to be misunderstood. Does that answer your question?

Senator WILEY. I think you have clarified it in my thinking.

I think, Mr. Chairman, that it would be wise if we had a rather detailed statement of the *Horcon case*, if that is what it is called.

Mr. HORTON. It is becoming commonly known as the *Horcon case*. That is the case in which they went to the Solicitor General and the Attorney General with a request for an opinion as to how far they could go, and in which there was comment to the effect that the treaty gave no power to the commission to execute its decisions; therefore, the court was the instrumentality.

Now, in this treaty, we have the power of the commission to execute its own decisions.

Senator MURDOCK. Do I understand you to say that the Black decision holds only that where the power of determining facts and finding

facts is delivered to the State Department and the State Department finds the facts, then the court is precluded from passing on those findings?

Mr. HORTON. It is precluded from acting upon the facts; in other words, the determination of the State Department is binding on the courts.

Senator MURDOCK. There is nothing new in that decision.

Mr. HORTON. I would hate to admit that there was nothing new in that.

Senator MURDOCK. It seems to me that that is held very frequently. Where the power of finding and determining facts has been delegated to an administrative agency, and those facts are found, then the courts cannot pass upon the facts.

Mr. HORTON. I think you and I could get on common ground very quickly as to the danger of this treaty, because this commission is given the power to determine the facts; and if it finds them then the court is a mere instrumentality for carrying out the determination of the commission, and we have no day in court.

Senator MURDOCK. It is all a question of fact.

Mr. HORTON. That is right. The interpretation of this treaty and its application are given to the commission by specific and precise language.

There is another thing in this treaty to which I should like to call your attention. I hope you will pardon me for jumping around but your questions prompt my doing so.

Senator MURDOCK. You do not mean that my questions make you jump?

Mr. HORTON. I do not mean that, Senator.

You will find in this treaty a provision relative to the commission passing rules and regulations, and that those rules and regulations shall be in addition to the rules and regulations that were provided for by the treaty which created the International Boundary Commission, which is going to be perpetuated under the name of the International Boundary and Water Commission. Going to those rules and regulations with respect to hearings, is very interesting, because they give no opportunity for a day in court. They provide no service of notice on anybody. They set up no required process by which a man may be heard or witnesses may be heard. As a matter of fact, a study of the proceedings of the International Boundary Commission shows that they adopted a rule and regulation by which they would take old maps and records and would not let a person testify. In some of their cases they have precluded people from testifying. In some cases there has been established a very definite rule to prevent a representative of one of the interested parties from asking any questions in connection with the case when the case was before the commission.

In contrast to that, I would invite your attention to the treaty of 1909 between the United States and Canada which sets out a very good procedure in matters where they have power to investigate matters and make recommendations to the Governments though they are not binding at all. There an application is filed, and all interested parties are given notice by publication and otherwise. They have an opportunity to come in and file objections. Then, a replication is

filed, it is heard, and briefs are filed in the matter just the same as in court. People have an opportunity to be heard.

Senator MURDOCK. Is that provided for in the treaty itself?

Mr. HORTON. That is provided by the treaty and the rules that were adopted under the treaty.

Senator MURDOCK. Have we not a right to assume that the State Department will, under this treaty, if it is adopted, promulgate such rules and regulations?

Mr. HORTON. We have every right to assume just the contrary. A treaty has been in existence since 1889, and they have never adopted any such rules, but have adopted rules to the contrary. I do not think there is any reason to assume that they will come anywhere near adhering to the policy and procedure provided for in connection with the Canadian treaty.

Senator DOWNEY. Mr. Horton, did not Dean Roscoe Pound, in his discussion of this treaty, cover the various issues that you have been discussing?

Mr. HORTON. Dean Roscoe Pound discussed in the abstract the provisions of this treaty as they delegate to the commission administrative powers; in other words, as to whether or not the administrative powers that were vested by this treaty in the International Boundary Commission were startling or exclusive or objectionable.

Senator DOWNEY. Did he not use the word "unique"?

Mr. HORTON. I think he used words worse than that: Not only "unique" but there was the implication of "unheard of."

I invite the attention of the committee to the article in the November 1944 issue of the American Bar Journal, in which there is some pro and con discussion of the administrative features of the treaty.

There was likewise contained in that journal the comments of Dean Roscoe Pound concerning this treaty, condemning it as to its administrative features in no uncertain terms. There is also contained in it a resolution of the American Bar Association in objection to the administrative features of the treaty.

Senator DOWNEY. Those articles and that resolution have not yet been placed in the record, have they?

Mr. HORTON. I do not think they have been.

Senator DOWNEY. Is it the intention to put them in?

Senator MILLIKIN. Mr. Chairman, Mr. Shaw, I believe, referred to that.

• Mr. SHAW. No, sir.

Senator MILLIKIN. Someone has testified about Dean Roscoe Pound. Oh, I remember. It was Governor Warren.

Mr. HORTON. I think Governor Warren made mention of that.

Mr. Chairman, I have touched upon matters here and made reference to some supporting data. May I have the privilege, in the interest of having a definite, concrete record in this matter, in addition to my oral statement, of supplementing my remarks with a written brief covering these supporting matters, with the understanding that it will be printed as if I had orally given it, so that I may not need to dwell so much upon details in my comments here? May that be done?

Senator LA FOLLETTE. That may be done.

Mr. HORTON. Thank you very much.

Senator MILLIKIN. Mr. Chairman, may I be permitted to ask a few questions?

Senator LA FOLLETTE. Certainly.

Senator MILLIKIN. Mr. Horton, forgetting this particular treaty, if there is to be a treaty that concerns the distribution of water, will you concede that it must necessarily be a treaty in perpetuity?

Mr. HORTON. Insofar as the division of water is concerned; but insofar as administrative features are concerned, never. Really, I am serious about that.

Senator MILLIKIN. If you want to have a table-pounding contest with me, I believe I can pound the table too. So steady down.

Mr. HORTON. Pardon me.

Senator MILLIKIN. You believe that the nature of the subject matter necessarily requires a treaty in perpetuity, so far as the division of water is concerned?

Mr. HORTON. I think that that might be desirable.

Senator MILLIKIN. What I am trying to get at is this: Where you are dealing with that kind of subject matter, which calls for a treaty in perpetuity as to the main business of water allocation; what do you propose as an alternative in the way of administrative controls that would make a treaty of that kind workable?

Mr. HORTON. I would leave the administrative control of the performance of the treaty in the hands of Congress, with the right and privilege of Congress to change the method by which they might carry out that treaty from time to time in accordance with the internal affairs of the United States.

Senator MILLIKIN. Does not that suggest certain difficulties to you? I mean the part about making perpetual allocation of water. Let us assume that that is relatively simple if both parties are seeing eye to eye. But then you have this question in perpetuity of administration, which is almost equally important. How can you subject that to a constant series of reviews by the Mexican Congress and the United States Congress with any hope of ever reaching agreement?

As I say, loosen your mind from this treaty. I am talking to you in general terms.

Mr. HORTON. I do not think that would be difficult at all, Senator, for this reason: We have started in on the Colorado River Basin a number of years ago to try to work out these problems. I think we have made admirable progress in connection with the compact and in connection with the division of water between the upper and lower basin States.

The time has arrived when the upper basin States are going to have to have an agreement or a compact or are going to have to work out something among themselves. That time has also arrived with respect to the lower basin States. Your States—I mean the upper basin States and the lower basin States—cannot say today just exactly what is to be the most admirable method of carrying out that division of water. But I do know this, and I am satisfied of this: that out of this development in the Colorado River Basin, in the 30 or 40 years it is going to take to put the Colorado Basin into major, if not maximum, development, we are going to find a definite solution, maybe a river master. I do not know just what form it is going to take, but by progressive work upon this by all the interested States working in

harmony, I know that we can work out something like that, and we should not be hamstrung by this treaty in working out our own internal affairs in the United States, and I accord the same privilege to Mexico.

Senator MILLIKIN. That poses the duty here to get up a treaty within which we can work out those things, does it not?

Mr. HORTON. That is right.

Senator MILLIKIN. Your point is that this is not that kind of treaty?

Mr. HORTON. This treaty is decidedly not that. We need to work one out.

Senator MILLIKIN. The ultimate administrative features, as you foresee them, you think could safely be relegated to the decisions of the Congress of the United States and the Congress of Mexico?

Mr. HORTON. In the first place, I do not think there is any place in the treaty for the International Boundary Commission to become the holder and owner of title to property. That is one thing that should be left wholly to Congress.

In that connection, I want to point out to you one paragraph contained in the black book of the Commission or of the Department of State. I do not know whose it is, but I am going to refer to it as the black book. I call this to your attention to indicate that the Commission claims it is not going to impose its will in every instance on the Bureau of Reclamation or other Federal agencies. It is specifically stated in the black book that all the functions necessary to carry out the treaty can be done by contract. That is bait held out to the Bureau, in my opinion, but there is a definite indication that they know it can be done.

Senator MILLIKIN. Your first suggestion goes to the ownership of property?

Mr. HORTON. Yes.

Senator MILLIKIN. What is your suggestion on that?

Mr. HORTON. My suggestion is that it is not necessary and should not be permitted; that the International Boundary Commission should not take title at its will and whim to private property of States or agencies that are engaged in the handling of water in the watershed, unless Congress finds it is absolutely essential and that that is the only way out.

Senator MILLIKIN. Your criticism goes to those works which are specifically prescribed in this treaty?

Mr. HORTON. Yes; in other words, that it is made mandatory.

I wish Senator Austin were here, for there is in that treaty a clause that ought to appeal to him. They have even put in that treaty a clause to the effect that they can go out and take title to the bed of the stream in your State. There is a concrete illustration of what they are trying to do.

Senator MILLIKIN. Would you have a different suggestion as to putting the title to those specific works that are mentioned in this treaty? Would you put that title somewhere else than in the Commission?

Mr. HORTON. Insofar as it is necessary for title to be taken, and Congress provides that title shall be taken, I think it is the affair of Congress to dictate how it shall be taken.

Senator MILLIKIN. If Congress approves this treaty, Congress has said as to these particular things, "We give the title to the River Com-

mission." If you object to that, all I am trying to get from you is, What is your alternative?

Mr. HORTON. If they are going to have to take title in somebody, maybe they might just as well take title in the American section, on the international boundary. That is not the point. It is putting into the treaty the mandatory provision that they have to go out and take title to property. I think there is no necessity for their taking title. That is one of the things I am complaining about.

In other words, there is no alternative.

Senator MILLIKIN. Then, you are not objecting to their holding title; you are objecting to the unnecessary acquisition; is that your point?

Mr. HORTON. That is right.

Senator MILLIKIN. How would you limit that?

Mr. HORTON. I would provide that no existing works, Federal or State, should be disturbed or any anywise impinged upon where it was practical, by agreement, to arrange for the performance of the treaty so far as local problems in the area of that particular agency are concerned, so that they could be performed through the local agency.

In other words, this business of permitting a commission to go upstream and decide: "We will take the river over for the next 60 miles; maybe we might want to put a dam in it"—to do that at their will and whim is unthinkable to me.

Federal and State agencies which are competent in local areas to handle administrative features in the local areas should be permitted to continue to do that.

Senator MILLIKIN. Do you draw any distinction between matters of major importance and matters of minor importance? Do you want to bring everything back here to Congress on every particular where a decision of any kind is involved?

Mr. HORTON. I think that something could probably be worked out whereby if the Boundary Commission or the American Commissioner did something that was entirely inappropriate, Congress could rectify it.

Senator MILLIKIN. I am trying to develop whether there is any alternative to the mechanics provided by this treaty. I am asking you to suggest an alternative.

Mr. HORTON. Senator, you are asking something on which I think we may be able to furnish you something in concrete language. Rather than have me give you my own individual, offhand opinion as to what the phraseology should be, would you mind if we submitted to the committee something concrete and definite.

Senator MILLIKIN. Well, it would be perfectly agreeable to me. I am not a member of the committee. I was not asking to get exact language; I was trying to explore your thought on the subject, my basic jumping-off point being that where you have something that must of its nature run in perpetuity, at least as to certain features of it, there certainly must be a line of distinction between where you come running to Congress every time you have a question and where you do not need to.

I believe it would be constructive if those who do not favor this treaty suggested a practical line of distinction between those two points. I leave that with you for whatever it may be worth.

Your first point is that you object to the useless acquisition of property by this Commission. You have no particular objection to the Commission's holding title to those works mentioned in the proposed treaty?

Mr. HORTON. Oh, yes; I have. Wait a minute. I surely have.

Senator MILLIKIN. When I asked you before who you would have hold that title, I thought you said that as far as you were concerned you were willing that the Commission should have it.

Mr. HORTON. All right; I am willing if there is property to which title must necessarily be taken by the United States Government or some of its agencies. Then insofar as choosing between the Bureau of Reclamation or the Boundary Commission, I do not think that is so material.

Your statement, if I understood it, implied that I agreed that under the terms of this treaty this Commission should take title to the specific property named therein, which includes some of our property. I surely do not agree with that.

Senator MILLIKIN. Then, let me rephrase my question. What type of property do you think it would be appropriate for the Commission to own or to hold title to?

Mr. HORTON. I think they could own an office building in Yuma very appropriately or rent some office space with the Bureau of Reclamation. But outside of that, I do not think they need to own anything.

Senator MILLIKIN. Who would own the diversion and other works contemplated in this treaty—if you wish, I will read them to you—to be constructed by the two Governments? Who would own them? Who would hold title?

Mr. HORTON. Boulder Dam would continue to be owned by the United States Government.

Senator MILLIKIN. This does not provide for the construction of Boulder Dam.

Mr. HORTON. It provides for its use.

Senator MILLIKIN. I am talking about the things this treaty provides for in the way of construction. Who do you suggest should hold title to them?

Mr. HORTON. The only thing that that actually provides for in the United States on the Colorado River is Davis Dam.

Senator MILLIKIN. I will read some of these items. I read from article 12:

(b) The United States, within a period of 5 years from the date of the entry into force of this treaty, shall construct in its own territory and at its expense, and thereafter operate and maintain at its expense, the Davis storage dam and reservoir, a part of the capacity of which shall be used to make possible the regulation at the boundary of the waters to be delivered to Mexico in accordance with the provisions of article 15 of this treaty.

Who, under your theory, would take title to Davis Dam?

Mr. HORTON. If it is built under the Reclamation Bureau, and there are no contracts with the Commission and none with individuals, then it would probably be retained by the Reclamation Bureau or such other agencies as from time to time the United States Government might decide was the proper one to succeed the Bureau of Reclamation if there was any change.

Senator MILLIKIN. The protocol makes it clear that that could be done, does it not?

Mr. HORTON. I am not so sure that it does, Senator. In other words, I am not so sure that that protocol goes into what you may have in mind. Now, it depends upon the use to which it is put as to whether or not there could be any change. Obviously, the protocol provides that anything that is used only in part for the performance of the treaty may be, so far as physical operations are concerned, handled by any bureau that the United States desires.

Senator MILLIKIN. If the protocol has that effect, then you have no objection as to who holds title under the protocol?

Mr. HORTON. That is not ownership. The protocol does not provide for ownership.

Senator MILLIKIN. What is your suggestion as to the ownership of title to Davis Dam?

Mr. HORTON. As to Davis Dam, leave it in the Bureau for the present, until the United States Government decides that it should be elsewhere.

Senator MILLIKIN. If the protocol has that effect, you have no objection to it?

Mr. HORTON. That is right.

Senator MILLIKIN. Subsection (c):

The United States shall construct or acquire in its own territory the works that may be necessary to convey a part of the waters of the Colorado River allotted to Mexico to the Mexican diversion points on the international land boundary line referred to in this treaty.

Who, in your opinion, should own those works?

Mr. HORTON. Of subsection (c)?

Senator MILLIKIN. Article 12, subsection (c).

Mr. HORTON. That is a general, over-all provision that is not tied to anything. It is simply a general authority to acquire title to property and to make delivery to the boundary.

Senator MILLIKIN. Who, in your judgment, should own that?

Mr. HORTON. It depends on what property they are going to use.

Senator MILLIKIN. All right.

Mr. HORTON. I will say this: I do not think the Boundary Commission should own that.

Senator MILLIKIN. You do not believe the Boundary Commission should?

Mr. HORTON. No; because in that area either the Bureau of Reclamation or the Imperial irrigation district by act of Congress and by contract own all of that operating area, and I do not think—

Senator MILLIKIN. Your point is this—if I am incorrect, please correct me—that to the extent that existing works suitable for the purpose are in being, you want the title to remain in the present owners; is that right?

Mr. HORTON. I think that is a pretty fair statement of it as a general statement.

Senator MILLIKIN. You would object to the acquisition of that by the Commission?

Mr. HORTON. Where it was unnecessary; yes.

Senator MILLIKIN. I continue to read from paragraph (c):

Among these works shall be included the canal and other works necessary to convey water from the lower end of the Pilot Knob wasteway to the international boundary, and, should Mexico request it, a canal to connect the main diversion structure referred to in subparagraph (a) of this article, if this diversion structure should be built in the limitrophe section of the river * * *.

Where you would build anything in the limitrophe section of the river in pursuance of this treaty, who do you think should hold title?

Mr. HORTON. If it is built strictly in the limitrophe section?

Senator MILLIKIN. Yes.

Mr. HORTON. Of course, some agency of Mexico is going to own title on the part of it on the west side, and some agency of the United States is going to own the part on the east side of the thread line.

Senator MILLIKIN. Which agency do you say is the appropriate agency on the United States side to own works pursuant to this treaty in the limitrophe section?

Mr. HORTON. I think that title should go to the Yuma County Water Users Association under their arrangements with the Bureau of Reclamation. At the present time, as I understand it, the Bureau of Reclamation is operating that project and is supposed to turn it over to the Yuma County Water Users Association when they have paid out that project. The title to anything there should go along with that project.

Now, as to the fact that it may cover both sides of the stream, I think an agreement there could be worked out very well with respect to its operations.

Senator MILLIKIN. Then, your objection, so far as the items I have mentioned are concerned, goes to your contention that nothing new should be acquired that is in existence; that that which is in existence should be utilized; and you prefer that it be utilized by the existing owners?

Mr. HORTON. Senator, that is an awfully broad statement. I am going to agree with you in principle. But you skipped two very vital propositions when you read that—that you did not mention. You jumped down to the limitrophe section and completely forgot the portion of the works that are specified for the taking of title by the Commission. One of the works was that leading from the Pilot Knob wasteway into the Alamo Canal and down into the Colorado River.

Senator MILLIKIN. I think I read that.

Mr. HORTON. You read it, but you did not comment on it. The only thing you asked me about was the limitrophe section. I want to complete that.

Senator MILLIKIN. You have made a general implication here that I have picked selected parts of language, which I did not do at all. The reason I did not comment on that was that you had just said before I came to that that in that kind of work you saw no reason why there should be the acquisition of facilities.

Mr. HORTON. That is right.

Senator MILLIKIN. Is not that correct? That is a fair question? Is not that correct?

Mr. HORTON. What was your question? As to whether I said that?

Senator MILLIKIN. Never mind. Pass it.

What other suggestions have you that would, in your opinion, make for better administration if the questions were to come back to Congress as they were raised on each side of the line?

Mr. HORTON. I think the changing conditions that have to come about in the over-all development of the Colorado River Basin in the next few years are going to bring to light many things that need to be acted upon by Congress. I just cannot conceive the making of a treaty that

would take away from Congress the power to do as it pleased internally in the United States in connection with all the works inside the United States. I just cannot conceive our putting it beyond the power of Congress to do that.

Senator MILLIKIN. That all rests upon your own interpretation of the treaty. When you say "all the works in the United States," that takes in a lot of territory. I do not know whether to go that far or not. All I am trying to get out of you, if I can get it out of you, is: What are your suggestions in a specific way as to alternatives to the administrative feature of this proposed treaty that you do not like? That is all I am trying to get out of you.

Mr. HORTON. Provisions I do not like?

Senator MILLIKIN. My preface was that we are dealing with something that is to last forever and that necessarily, by its nature, must last forever. You said that the allocation of water must last forever but that these administrative things can be passed back and forth between the Congresses of the two nations to meet changing conditions. I am trying to get an idea of what administrative features we can reserve from the operation of this treaty.

Mr. HORTON. Outside of the question of the International Boundary Commission placing an order with the appropriate Federal authority which has control of turning down the river the quantity of water that would have to go to Mexico at a given time, I do not think any of the administrative features of the treaty ought to be left to the Boundary Commission.

Senator MILLIKIN. You believe that every one of the works contemplated in here should come before the Congress of the United States and the Congress of Mexico as a specific problem in each instance as time goes on?

Mr. HORTON. No. You misinterpret it. It is not necessary to do that any more than it has been necessary to come back to Congress every week or every month when they wanted to do a little bit of something at Boulder Dam. In other words, I am not trying to be critical of your statement, Senator, but I do not mean that it is necessary to come back to Congress every time they want to open or shut a gate or every time they want to change the design of a gate or every time they want to make an improvement.

Senator MILLIKIN. I am trying to find out from you where you do draw the line between where you do that and do not do that.

Mr. HORTON. I say this: I say leave it to the International Boundary Commission to have its dealings—that is, the American Commissioner with the Mexican Commissioner—insofar as getting these schedules and relaying the information to the appropriate river master, whoever he may be, on the Colorado River is concerned, so that the water may be let down, and give no more administrative functions to this Commission, insofar as the delivery of this allotted water may be concerned.

I am not trying to evade this, Senator.

Senator MILLIKIN. It is in your interest not to evade it.

Mr. HORTON. I am not; but your questions are so general, and they encompass time in perpetuity. It is just inconceivable to me to be so presumptuous as to try to lay out before you my program.

Senator MILLIKIN. I made my questions general in order to give you leeway.

Mr. HORTON. I gave you the answers.

Senator MILLIKIN. You have given the answer, and that satisfies the purpose of my question.

Now, just one more question: You are aware, of course, that many of our treaties are not self-executing. I am not talking about water treaties; I am not talking about treaties with Mexico. You are aware that many of them are not self-executing?

Mr. HORTON. I know there is a considerable portion of law devoted to the question of what is self-executing and what is not. In that sense, yes.

Senator MILLIKIN. The answer is yes, of course?

Mr. HORTON. Yes.

Senator MILLIKIN. So there is nothing in that kind of a treaty that requires administrative action to implement it and make it effective?

Mr. HORTON. As a matter of fact, that is common practice in England. Before they actually put a treaty into effect, they go to Parliament and get authority to carry out what the treaty provides for.

Senator MILLIKIN. That is what we do here, when we get the consent of the Senate.

Mr. HORTON. I beg your pardon; we do not. We simply get the consent of the Senate to put the treaty into effect.

Senator MILLIKIN. What you say is that in Parliament they get current authorization under the treaty as time goes on? Is that it? What is your statement about Parliament?

Mr. HORTON. In England, it is my understanding that in order to make a treaty, and before they make a binding obligation on the Government by virtue of the treaty, the matter goes to Parliament, and the Parliament then passes on whether the commitments in the treaty shall be carried out or not.

Here we have a treaty that comes before this Senate purely for the purpose: Shall we sign it?

Now, after that is done, nothing come back to Congress except for appropriations, which I maintain have to be made, or else the treaty is breached. Nothing comes back to the Senate for determination.

Senator MILLIKIN. So that is the test of whether a treaty is self-executing: Whether you have to come back to Congress to get an appropriation, let us say, or whether it must be implemented by executive agreements.

Mr. HORTON. Well, I did not place that construction on your question of self-executing. However, I see your point now.

Senator MILLIKIN. Of course, Congress can breach a treaty by not making an appropriation; there is no question about that. There is no question but that a treaty implies the obligation to do that which it calls for, which puts the obligation upon Congress to come through with that which the treaty requires.

Mr. HORTON. Whether it wants to or not.

Senator MILLIKIN. That is right. That is in the nature of treaties; is it not?

Mr. HORTON. It is in the nature of this treaty.

Senator MILLIKIN. It is in the nature of every treaty that is not self-executing.

Mr. HORTON. I would not put the statement that broad. In other words, I think there are probably reservations or language in treaties.

which definitely indicates that Congress still has something to do with the question and does not leave it wholly up to the Secretary of State and the Commission.

Senator MILLIKIN. Just one more proposition; then I will quit.

Take the subject of reciprocal trade treaties. They are under the jurisdiction of the Secretary of State. He has the power to reduce tariffs 50 percent, which you could argue runs across two or three express provisions of the Constitution, so far as the powers of Congress are concerned. There is something which has met with the favor of Congress. I may say it has not met with my favor, but it has met with the favor of Congress. It is an enormous delegation of power to the Secretary of State which, in my judgment, perhaps parallels this particular delegation.

Mr. HORTON. Is it not a fact that that treaty is only for a term of years and is subject to termination?

Senator MILLIKIN. It is not a treaty, but it is an authority to the Secretary of State to do certain things with the tariff policy of his country, which is within the jurisdiction of Congress.

Mr. HORTON. And over which all the time hangs the jurisdiction of Congress to control him.

Senator MILLIKIN. That is why I was raising the point of perpetuity.

The CHAIRMAN. Are there any other questions?

Mr. HORTON. I have not yet completed my statement; I am sorry.

The CHAIRMAN. How long would it take you to finish?

Mr. HORTON. I do not know how many questions there will be.

The CHAIRMAN. Waiving any questions.

Mr. HORTON. With the questions, Senator; do not forget the questions.

The CHAIRMAN. How long will it take you to get finished?

Mr. HORTON. May I go over what I have here and tell you in the morning?

The CHAIRMAN. No; I want to finish your testimony tonight, if possible.

Mr. HORTON. Well, Senator, I cannot finish it up and cover all the features.

The CHAIRMAN. How many more features do you have? You have been talking for 2 hours here on features.

What are your wishes, Senators? I will act according to your wishes.

Mr. HORTON. I think I could finish in a half hour in the morning.

The CHAIRMAN. How about a half hour tonight?

Mr. HORTON. Going on now?

The CHAIRMAN. Yes.

Mr. HORTON. I do not want to impose on the Senators; it is entirely up to them.

The CHAIRMAN. What do the rest of you say, even though you may not be members of the committee?

Senator DOWNEY. Mr. Horton, do you not think, since we have reached this hour of the day and there are few Senators present, that you could submit in writing what you would like to say on the additional points?

Mr. HORTON. I should be very happy to do so.

Senator LA FOLLETTE. He has already received permission to submit an entire brief.

Mr. HORTON. I should be happy to do that. In other words, I do not want to impose on the Senators, but I do believe that this is tremendously important to the United States as a whole.

The CHAIRMAN. It is as important to us as it is to you.

Mr. HORTON. May I make this one comment? Then I will close and will not come back.

The CHAIRMAN. I am not saying I do not want you to come back, but I do want you to get finished as soon as you can, like all the other witnesses have. We have a room full of people from five other States waiting to be heard.

Mr. HORTON. I think you have been very courteous to us, Mr. Chairman, in granting us this time.

The CHAIRMAN. I do not know that I have; maybe I have been. But that is beside the question.

Mr. HORTON. Let me make this suggestion: When you go into this treaty, if it is signed, you cannot back out.

The CHAIRMAN. That is right.

Mr. HORTON. This is the first post-war—

The CHAIRMAN. If you are going to make a general argument, if you want to open up and argue, do you want to go on?

Mr. HORTON. I want to finish in about 3 minutes and then quit.

The CHAIRMAN. All right.

Mr. HORTON. If you will let me.

The CHAIRMAN. I will be glad to.

Mr. HORTON. This is the first post-war treaty you are going into. It is in the nature of an appeasement to Mexico; it is not upon the merits, insofar as equities are concerned.

Now, I beseech you, do not do something that cannot be recalled merely because it may appear at this time desirable to make a treaty with Mexico. Do not place our own internal affairs in this country in such shape that we cannot control them, and do not, in the giving away of water to Mexico, go so far that we are going to deeply regret it and have no way of rectifying it if it turns out to be a mistake.

I want to thank you, Mr. Chairman.

The CHAIRMAN. All right. You may submit your paper.

(The paper referred to is as follows:)

UNITED STATES-MEXICAN TREATY OF FEBRUARY 3, 1944, AND PROTOCOL OF NOVEMBER 14, 1944

PARTIAL ANALYSIS OF JURISDICTION, AND POWERS VESTED IN COMMISSION AND AMERICAN COMMISSIONER, AND ANALYSIS OF SOME TERMS MAKING TREATY AMBIGUOUS AND UNWORKABLE

[Submitted by Harry W. Horton, of El Centro, Calif.]

FOREWORD

The following is a partial analysis of the many powers and jurisdictional features of the treaty of February 3, 1944, and protocol of November 14, 1944. They in effect create, in perpetuity, the International Boundary Commission, to be known as the International Boundary and Water Commission, a vast administrative works agency, free from congressional control, for the handling of water and hydroelectric power on three river systems in the United States.

Any appraisal that is made of the terms of the treaty as to power, jurisdiction, or interpretation, and any study which is given to its ambiguities, should be

carried out in the light of the fact that the Commission is, by the treaty, given the right and authority to interpret and apply the provisions of the treaty. Therefore, the extremes to which the Commission might go in these respects should be considered.

CHAPTER I. TWO GOVERNMENTS

The treaty vests in a two-man Commission (one American Commissioner and one Mexican Commissioner) power to make and carry out determinations on three river systems (Rio Grande, Colorado, and Tijuana). The only approval required of the United States is the approval of the Secretary of State. No approval or control by Congress is provided for.

In other words, the treaty sets up a two-man international bureaucracy beyond the control of Congress even as to many internal affairs in the United States.

It is often suggested, as a point in favor of the approval of the proposed Mexican treaty, that its purpose and effect is to settle for all times the question of the division of the waters of the Rio Grande and the Colorado Rivers. It takes but a cursory examination of the treaty to ascertain that in addition to settling the division of these waters, it authorizes the International Boundary Commission to enter into broad fields of activity, based upon negotiations and agreements, and the committing of the United States to the expenditure of large sums of money, and although the activity of the Commission in this regard is at various places in the treaty made subject to the approval of the two Governments, it is the position of the opponents of the treaty that, with respect to these activities, no approval or control by Congress is provided for.

Nowhere in the treaty or protocol are there any reservations or provisions retaining or giving to Congress or the Senate any future control over the commitments, agreements, or decisions of the Commission. In fact, the control over such matters is specifically retained for the State Department.

Article 2 of the treaty provides:

"Wherever there are provisions in this treaty for joint action or joint agreement by the two Governments, or for the furnishing of reports, studies, or plans to the two Governments, or similar provisions, it shall be understood that the particular matter in question shall be handled by or through the Department of State of the United States and the Ministry of Foreign Relations of Mexico."

The only answer made by the proponents to the above-quoted specific language is the claim: 1. That appropriations for the carrying out of the agreements made by the Commissioners with the approval only of the Secretary of State, may be approved or rejected by the Budget, and appropriations committees, and Congress; 2. That there is an *implied** reservation in the treaty making the agreements made under the treaty subject to congressional approval—just how, it is not explained.

These two proponent suggestions, it is submitted, are unfounded in law, fact, or precedent. It appears to be the law that a refusal to make appropriations needed to carry out treaty commitments may be made, but only under penalty of breach of the treaty.

Of interest on the subject is a statement made at pages 152-153 by a State Department representative before a subcommittee of the House Appropriations Committee on the State Department appropriations hearings for 1935. Concerning the necessity of approving appropriations requested, it was stated:

"Mr. CARR. No, it would not be a question of your following some arbitrary rule, but it would be a question as to whether we were carrying on the treaty or not. That is the only point involved; we are under obligations to carry out the treaty. It all comes down to one question, as to how much money it takes to do certain things which are required under the treaty and the engineer of the Commission, of course, has to be in the main the determining mind as to what is essential."

To fully appreciate the gravity of this delegation of power and its far-reaching effect, one must only recall that the delegation is in effect in perpetuity. However, there should also be considered the following:

1. The power given by the treaty to the Commissioners and Secretaries of State to make and carry out agreements which do not have to be ratified by or even known to the Senate or Congress (art. 24 (c)).
2. The international character of the Commission and its members and their freedom from court jurisdiction (art. 2). (See ch. XIV, p. 834, hereof.)

*Unless otherwise noted, italics in excerpts throughout this memorandum are ours.

3. The power of the Commission, with only the consent of the Secretaries of State, to make their own rules of procedure (art. 25), render decisions, and "execute" them (art. 25).

Considering the broad powers contained in the treaty and provisions for the Commission to make agreements and determinations which, when made known to the two Secretaries of State, become binding if not disapproved by the Secretary of State within 30 days, and considering that the treaty specifically authorizes the two Secretaries to act for their respective Governments, the following is submitted:

1. There is no reservation or condition in the treaty that commitments of the Commissioners or Secretaries of State are not binding on the two Governments—in fact, just the contrary.

2. If it is intended that the agreements, determinations, or commitments of the Commissioners or Secretaries of State are to be subject to the approval of Congress in any way, the treaty does not say so. If such is the intent, then it should be plainly stated in clear language.

CHAPTER II. AGREEMENTS

The treaty authorizes the American and Mexican Commissioners, with only the approval of the respective Secretaries of State of United States and Mexico, and without the knowledge, advice, or consent of the United States Senate or Congress to make and perform agreements between the two Nations. It, in effect, authorizes the two Commissioners and the two Secretaries of State to now and hereafter bind the two Governments as if by treaty but without Senate or congressional approval.

The treaty pre-commits the United States to the building of certain works on the Rio Grande (art. 5) and on the Colorado (art. 12) Rivers.

However, throughout the treaty the Commission, or Commissioners, with the approval *only* of the respective Secretaries of State, are authorized by "agreement" to—change the number and location of the agreed works and agree on additional works for conservation, storage, and regulation of water on the lower Rio Grande and tributaries (art. 5); provide and operate flood control and channelizing works on Rio Grande (art. 6); provide for and operate hydroelectric plants on the Rio Grande (art. 7); provide new and take over existing works on the Colorado River and tributaries (art. 12-14); do as it may hereafter determine with the Tijuana River (art. 16); make special agreements concerning hydroelectric power development, disposition, and export (art. 19); acquire properties, including property "within the channel of any river" (art. 23 and 24); exercise and discharge the duties and powers entrusted to the Commission by this and other treaties and *agreements* and to carry into execution and prevent the violation of the treaties and *agreements* (art. 24 (c)); make their own rules of procedure, and render and "execute" their decisions (art. 25).

These references to "agreements" as distinguished from treaties immediately raise the question as to just what are such "agreements." There are, of course, executive agreements which can be made between the Presidents of the two Governments. Such agreements are in most cases subject to congressional control. At least their making can be restricted by Congress if it so desires. In this treaty "*agreements*" between the two Commissioners approved *only* by the respective Secretaries of State are provided for and *this power* is given in perpetuity and *beyond congressional control*. No reservation whatsoever of congressional control is provided for in the treaty.

An even more startling feature is that both the United States and Mexico have established a precedent with respect to this treaty that it is necessary for the United States to have Mexico's agreement when and if, as to our domestic handling of treaty matters, we desire to change from the provisions of the treaty of February 3, 1944. In order to provide that a Federal agency other than the American Commissioner in question could be utilized to operate works in the United States used only in part for treaty performance, a protocol or amendment to the treaty was, on November 14, 1944, agreed to between the two countries. This, it is submitted, is concrete evidence of the permanency of the provisions of the treaty and of the lack of congressional control. Otherwise, why the protocol or the necessity of Mexico's consent to our own determination to, in the United States, use a Federal agency other than the Commission or American Commissioner in certain instances?¹

¹ For further discussion of protocol, see p. 833 hereof.

Under treaties between the United States and Mexico concerning boundary and water matters containing much less authority to the Commission, the Commissioners and Secretaries of State have established a practice of making *agreements* between the two countries having the force of a treaty, but without Senate approval—in fact, without the necessity of even knowledge on the part of Congress.

The following discussions before a subcommittee of the House Appropriations Committee disclose:

"Mr. OLIVER. You say it is an agreement, but not a treaty?"

"Mr. LAWSON. Yes.

"Mr. OLIVER. Was it written?"

"Mr. LAWSON. Yes.

"Mr. OLIVER. An agreement between whom?"

"Mr. LAWSON. Between our State Department and the Department of Foreign Relations with Mexico.

"Mr. OLIVER. That is somewhat in the nature of a treaty, is it not?"

"Mr. LAWSON. An agreement, but not a treaty.

"Mr. JOHNSON. It was a formal report of the Commission, approved by both hearings, p. 162).

"Mr. LAWSON. Yes.

"Mr. GRIFFIN. A report of the Commission was made to the two Governments and the two State Departments respectively entered into this 'agreement' " (1935 hearings, p. 162).

Concerning another "agreement," Mr. Lawson testified at the same hearing:

"Mr. OLIVER. Is that also pursuant to a treaty between the two countries?"

"Mr. LAWSON. An agreement only.

"Mr. OLIVER. But following the treaty which was previously made?"

"Mr. LAWSON. Yes, sir."

At another such hearing in January 1937 concerning 1938 State Department appropriations, the testimony concerning "agreements" was as follows:

"Mr. BACON. There is this difference: This is an international river and we are doing it in compliance with the terms of a treaty made with Mexico.

"Mr. CARVER. Let me understand that, because in the justifications I do not see any statement, that these projects are in accordance with treaties with Mexico. Is that true?"

"Mr. LAWSON. It is true that all these projects are carrying out provisions of treaties or agreements with Mexico. For instance, the work and dam at El Paso carries out the terms of the International Water Treaty of 1906.

"Mr. CARVER. You say treaties or agreements. What is the distinction?"

"Mr. LAWSON. The project on the lower Rio Grande is in accordance with an agreement for each country to take care of floodwaters that would normally and naturally discourse through that country.

"Mr. CARVER. That agreement is not in the form of a treaty?"

"Mr. LAWSON. No, sir." (1937 hearings, p. 247.)

It is to be noted that care has been taken in the drafting of this treaty to put beyond question the power of the Commissioners and Secretaries of State to make "agreements" without the need of further consent or approval. Article 2 provides, "wherever there are provisions in this treaty for joint action or joint agreement between the two Governments * * * it shall be understood that the particular matters in question shall be handled by or through the Department of State * * * ."

In article 24 (a) these agreements are designated as "dealing with boundaries and international waters." However, in article 24 (c) the Commission is given power to exercise and discharge powers and duties entrusted "by this and other treaties and agreements." Note that "*agreements*" as there used are not limited to boundaries or international waters. This is also true in article 2.

Inasmuch as article 24 (d) gives the Commission full power to settle all matters concerning the "interpretation or application of this Treaty" there seems little doubt that once ratified the treaty would not only vest all these broad powers in the Commission and Commissioners but by ratification of the treaty these matters would be put beyond the control of Congress and the courts.

(Concerning finality of Commission's decisions and lack of court review or jurisdiction, see ch. XIV hereof.)

This treaty places in the hands of the Commissioners and the Secretaries of State not only this treaty but "other treaties and agreements" between the two countries (art. 24 (c)). It is presumed that all treaties are of public

record. Just what effect the broad powers of this treaty will have as to other treaties has not been determined.

However, there is not only the power of the Commission to make future binding agreements to be considered. What agreements, executive and otherwise, are there now existent that this Commission is given the jurisdiction and administration of in perpetuity? This certainly should be determined, and is within the knowledge of the proponents only.

Certainly any treaty between the two countries should reserve to Congress control over the Commission and its ability to commit this Government. Also, full power should be reserved in Congress to determine our own internal affairs concerning treaty performances and not quitclaim those powers to an international commission in perpetuity so that we have to get a foreign nation's consent to determine what agencies in the United States may perform internal functions (as has already been done by the protocol. See ch. XII hereof.)

CHAPTER III. TREATY AND UNITED STATES COMMITMENTS IN "PERPETUITY"

Once ratified, the treaty is not for a term of years but in effect in perpetuity. The United States is bound even as to the administrative features of the treaty and protocol until Mexico may be willing to consent to a change.

Instead of being for a term of years and subject to termination or modifications on given notice, once made the treaty is binding on the United States until Mexico voluntarily agrees to modification or termination.

Article 28 provides with respect to the treaty: "It shall enter into force on the day of the exchange of ratifications and shall continue in force until terminated by another treaty concluded for that purpose between the two Governments."

The proponents argue that the guaranteed allotment of water to Mexico should be in perpetuity. Assuming this position to be sound, it furnishes no justification for the creation in perpetuity of a two-man commission or the giving in perpetuity of the practically unlimited administrative, executive, and judicial powers given by this treaty to the Commission, Commissioner, and Secretary of State.

CHAPTER IV. POWERS AND JURISDICTION OF THE COMMISSION OR COMMISSIONER

An examination of the provisions of the proposed treaty, setting forth the powers of the International Boundary and Water Commission, brings up squarely and forcefully the question of what if any supervision or limitation there is as to the exercise of such powers.

A composite of the jurisdiction and powers given by the treaty to the Commission or Commissioner is as follows:

"The application of the present treaty, the regulation and exercise of the rights and obligations which the two Governments assume thereunder, and the settlement of all disputes to which its observance and execution may give rise. * * * The powers and duties vested in the Commission by this treaty shall be in addition to those vested in the International Boundary Commission by the convention of March 1, 1889, and other pertinent treaties and agreements * * * (art. 2).

"* * * conclude such special agreements as may be necessary to regulate the generation, development, and disposition of electric power at international plants, including the necessary provisions for the export of electric current" (art. 19).

"* * * carry out the construction of works allotted to them. (See protocol re use Federal agencies (art. 20).)

"* * * acquire, in accordance with their respective domestic laws, any private property that may be required for the construction of the said works, * * * and for the operation and maintenance thereof * * * " * * * determine the extent and location of any private property to be acquired within its own country * * * " * * * retain, through its own section of the Commission and within the limits and to the extent necessary to effectuate the provisions of this treaty, direct ownership, control, and jurisdiction within its own territory and in accordance with its own laws, over all real property—including that within the channel of any river—right-of-way and rights *in rem*, that it may be necessary to enter upon and occupy for the construction, operation, or maintenance of all the works constructed, acquired, or used pursuant to this treaty" (art. 28).

"* * * in addition to powers and duties otherwise specifically provided * * * ."

"To initiate and carry on investigations and develop plans for the works which are to be constructed or established in accordance with the provisions of this and other treaties or agreements in force between the two Governments dealing with boundaries and international waters; to determine * * * locations, size, kind, and characteristic specifications, * * * costs * * * arrange for funds * * * not otherwise covered by specific provisions * * * " " * * * have, to extent necessary to give effect to the provisions of this treaty, jurisdiction over the works constructed exclusively in the territory of its country whenever such works shall be connected with or shall directly affect the execution of the provisions of this treaty." "In general to exercise and discharge the specific powers and duties entrusted to the Commission by this and other treaties and agreements in force between the two countries and to carry into execution and prevent the violation of the provisions of those treaties and agreements." " * * * invoke when necessary the jurisdiction of the courts or other appropriate agencies of his country to aid in the execution and enforcement of these powers and duties." "To settle all differences that may arise between the two Governments with respect to the interpretation or application of this treaty * * * " (art. 24).

" * * * establish a body of rules and regulations to govern its procedure * * * " "The Commissioners, within the limits of their respective jurisdictions, shall execute the decisions of the Commission that are approved by both Governments" (final if not disapproved by Secretary within 30 days) (art. 25).

The foregoing are the general provisions and are in addition to the general and special provisions relating to the separate river systems. Article 16, for instance, relating to the Tijuana River, is broad enough to be properly stated as giving, by this treaty, power to the Commission and Secretaries of State to make a further treaty without ratification.

Having in mind that in conjunction with these general powers the Commissioners, with the approval only of the respective Secretaries of State, are empowered to make, execute, and prevent the violation of "agreements" (art. 2 and art. 24 (c)), the question immediately arises as to what, if any, limitations there are upon the actions of the Commission, the Commissioners, or the Secretaries of State.

Under another heading hereof the improbability of the courts of the United States providing any check or limitation upon the exercise of the broad powers committed by the treaty to the Commission, the American Commissioner, and the Secretary of State has been discussed.² It is in order, however, to here point out that the Boundary Commission is, by the treaty, purposefully made an "international body" (art. 2).³ The Commission makes its own rules (art. 25). Its decisions become binding unless disapproved, within 30 days after their minute entry, by the Secretary of State (art. 25). Each of the Commissioners is empowered to "execute" the decisions within his own territory (art. 25). In this respect the present treaty goes much further than earlier treaties dealing with the Mexican boundary and the Boundary Commission. Yet we find a present representative of the State Department declaring that the Boundary Commission, without authority to "execute" its decisions being contained in any treaty, did in fact carry out its decision, despite advice to the contrary⁴ concerning its powers.

Charles A. Timm, presently a State Department representative, had this to say in 1941:

"It would be erroneous to conclude that the Commission has been in practice restricted to the express powers of the treaty of 1889. Despite the conclusions in the Horcon case and the absence of express grant of such jurisdiction in the treaty, the Commission has undertaken on many occasions to supervise the carrying out of its decisions, rarely applying a strictly construed limitation upon its own authority."⁵

² See p. 834 et seq.

³ For discussion of immunity from suit of "international body" see p. 826 et seq., hereof.

⁴ In the Horcon case the Commission heard and determined whether a Texas ranch company had violated a treaty provision on the Rio Grande and found the violations. The American Commissioner submitted to the Solicitor General and Attorney General of the United States questions as to whether the Commission has power to render money and other judgments and if so how they would be enforced. The ruling was that the treaty involved gave no power to the Commission to "execute" its decisions. In the present treaty the power is specifically given in art. 25, "The Commission, within the limits of their respective jurisdictions, shall execute the decisions of the Commission * * * ".

⁵ Charles A. Timm: The International Boundary Commission, United States and Mexico, p. 63. See also for a résumé of the facts of the Horcon case.

The "territorial" jurisdiction of the Mexican Commissioner in the United States is limited. Not so with the American Commissioner in the United States.

However even in the case of the Mexican Commissioner, as this treaty is written, it cannot be said that he has no voice as to matters in the United States. The Mexican Commissioner and his staff have the full right to "carry out their observations, studies, and field work in the territory of either country." They are given diplomatic status in the United States (art. 2).

In order for our own Government to designate the Bureau of Reclamation or some other Federal agency to have authority (in the place of the Commission or American Commissioner) to construct or operate works in the involved river systems in the United States, *it was found necessary to get Mexico's consent by a protocol to the present treaty.*⁹

The effect and significance of the protocol have been referred to again and again in this presentation. However, it seems important to do so, because its analysis indicates so clearly, not only the potential influence of the Commission over the economic life of the Southwest, but also the clear intent of the framers that the activities of the Commission shall reach far up on the rivers to exercise some control over reservoirs, diversion works, or hydroelectric projects, wherever, in the opinion of the Commission or the American Commissioner, the carrying out of the provisions of the treaty may require.

A clearer understanding of how far reaching the powers of the Commissioners may be gained by an analysis of certain terms and phrases in the treaty applicable to the Colorado River.

Concerning the allotment of 1,500,000 acre-feet per annum to Mexico (art. 10 (a)), and "any other quantities * * * (art. 10 (b)), there are two phrases. The guaranteed allotment to Mexico is "from any and all sources" (art. 10). In cases of "surplus" water in the United States "as determined by the United States Section" (art. 10 (b)), Mexico is to get additional water. In the event of "extraordinary drought," Mexico's supply is to be "reduced" if it is difficult for the United States to make deliveries to Mexico and if consumptive use in the United States is reduced (art. 10 (b)).⁸

It should be noted that while the question of "excess water" existing in the United States is reserved exclusively to the American Commissioner, the question of the "sources" of the allotted water and the facts and factors concerning an extraordinary drought, while in the same article, are in no sense limited to the determination of the United States Section. Therefore, the determination must be one for the Commission and the Commission is composed of one American and one Mexican. Whether water is available and from what source is therefore not only within the power and jurisdiction of the American Commissioner as a member of the Commission—it is within the power and jurisdiction of the Commission as such with power in the United States Commissioner to "execute" that decision in the United States (art. 25).

The proponents have denied any jurisdiction or power in the Boundary Commission, except at the land boundaries or the international stream boundaries on the rivers. Any reasonable analysis refutes that position. The protocol⁹ definitely recognized that streams and structures away from the boundary will have to be used, at least in part, for treaty performances. The protocol also shows that in the treaty as written it was intended that the American Commissioner was to construct and operate structures away from the boundary, even though only used in part for treaty purposes. Otherwise why the protocol now to recognize those functions in other United States Federal agencies?

In the proponents "black book,"¹⁰ furnished each committee member there is a general effort to indicate that the Commission or American Commissioner is not to control or direct any functions. However, at various places in that "black book" there is to be found such expressions as: "The clause relating to section control of these facilities is consistent with the general purpose of the treaty in centralizing all activities of an international character involved in carrying out the terms of the treaty." (p. 97).¹¹ "In any event, of course, the work would be subject to the supervision of the Commission" (p. 88).¹² "It does not mean, however, that the two sections, either jointly or separately, are vested with any

⁹ For a discussion of the protocol see p. 833 et seq. hereof.

⁸ Concerning phrase "any and all sources" see ch. XI, p. 830 hereof.

⁹ Concerning "extraordinary drought" see ch. X, p. 828 hereof.

¹⁰ For protocol, ch. XIII, p. 833.

¹¹ See pp. 149-220, hearings (printed).

¹² P. 174, hearings (printed).

jurisdiction over the use of water within the two countries, *except to the extent of determining that water is available within the country's allotment for any such use*" (p. 61).¹³ "The purpose of article 2, and other articles of the treaty hereafter to be noted bearing on the functions and jurisdiction of the International Boundary and Water Commission, is to provide a central agency through which all such matters can be cleared and which would also serve to coordinate the activities of other agencies * * *" (p. 45).¹⁴

Where the influence of the Commission comes into play in both the lower and upper basin States is in the exercise of its discretion in determining the availability of water and where it is to come from. This is not simply an American Section matter. Having reference to the extraordinary drought clause, the proponents, in the "black book," state:

"The 'escape clause' in article 10 will be applied whenever such a condition exists in the upper basin that there must be a reduction in that basin's over-all consumptive use in order to make possible the delivery of an average of 75,000,000 acre-feet in 10-year progressive series at Lee Ferry. * * * The clause would also apply when the effects of such an extraordinary drought are felt in the lower basin, to the extent that uses in that basin must be curtailed. In other words, under the wording of the 'escape clause' neither the extraordinary drought, nor the consequent reduction of consumptive uses, need be felt simultaneously in all parts of the Colorado River Basin in the United States in order for the clause to be invoked. It is sufficient if there be such a drought in any portion of the basin, requiring a reduction of consumptive uses anywhere in the basin in the United States" (pp. 69-70).¹⁵

The foregoing should clearly demonstrate that continuously in all portions of both the lower and upper basins the two Commissioners will be determining the availability of water and in so doing will be passing judgment, in each State and area thereof where there are any storage or diversion works, on the various above-designated factors, i. e.:

- (a) Amount of water in storage.
- (b) Whether there has been anywhere a reduction in consumptive use.
- (c) Whether from the water in storage and with or without the next year's prospective supply there is water which could then be delivered to Mexico without "difficulty" to the United States.

In applying and determining these factors, it should at once be apparent the extent to which the Commissioners will be passing judgment in local areas. Then there is the question of whether the determination will be on a basis only of areas of reduced consumptive use or on a basin basis.

It should be apparent that any contention that the Commission or Commissioners are going to make determinations and exercise jurisdiction only at the boundary is erroneous.

Then there is, of course, the question of where and how the effect of taking water for Mexico would be felt first or last.

Also, there is to be kept in mind the finality of Commission decisions and the power of the Commissioner to "execute" the decision in his own country and the probable lack of any court review or jurisdiction.¹⁶

The admissions of proponent witnesses are interesting on the question of whether the Commission or American Commissioner would have jurisdiction over projects and works away from the boundary. While denying any such jurisdiction, Mr. Clayton testified as follows:

"Senator LUCAS. Under the terms of the treaty, does the Joint Commission have any jurisdiction over Boulder Dam?

"Mr. CLAYTON. None whatever: no, sir; *only the American section there*" (reporters transcript of hearings, p. 313.)¹⁷

"Senator MURDOCK. But if there is a deficiency, then certainly someone has a right to go somewhere to make up that deficiency?

"Mr. CLAYTON. That is correct (reporter's transcript, p. 306; printed hearing, p. 135).

"Senator MURDOCK. Is it not a fact, Mr. Lawson, that under the language of the treaty, with reference to extraordinary droughts, and so on, the storage capacity of the United States under that language becomes just as much of an insurance to Mexican water rights as to rights within the United States?

¹³ P. 166, hearings (printed).

¹⁴ P. 163, hearings (printed).

¹⁵ P. 168, hearings (printed).

¹⁶ See ch. XIV, p. 834 hereof.

¹⁷ See p. 138, hearings (printed) for alteration.

"Mr. LAWSON. The guarantee of 1,500,000 acre-feet is a very different guarantee from, for instance, the 75,000,000 acre-feet of the upper States in a 10-year period. I am assuming from that that if the drought conditions made the deliveries of water less to Mexico in one year there was no need to make up for that difference in the next year.

"Senator MURDOCK. The point that I make is that under the language of the treaty, until we begin to decrease the consumptive use in the United States, we are not entitled to decrease it in Mexico; which language, as I construe it, means that all of the storage works constructed in the United States for the conservation of water become just as much of an insurance to Mexican water users that they will get their full capacity as it is to the United States water users. That is true, is it not?

"Mr. LAWSON. There is some relation in there which I had not thought about, Senator. In other words, you might have storage water and still have a drought condition.

"Senator MURDOCK. That is it.

"Mr. LAWSON. And that applies to Mexico, and not the amount of water in storage.

"Senator MURDOCK. It applies to Mexico just as much as it applies to the United States. As long as our storage facilities are such that we can still deliver Arizona or California or any other State its entire consumptive use, we are not entitled, under the language of the treaty, to diminish one drop of flow of the water into Mexico, which language thereby makes our conservation works in the United States just as much an insurance to Mexico as they are to the users in the United States?

"Mr. LAWSON. It is not quite that way, Senator.

"Senator MURDOCK. I hope you will give that language your attention (reporter's transcript, pp. 2151-2152).

* * * * *
 "Senator MURDOCK. * * * The result of the treaty, if ratified is that the United States Government in perpetuity guarantees to Mexico 1,500,000 acre-feet of water, which is a demand on all of the present storage facilities of the river and on all the storage facilities that may be built in the future, that cannot be decreased by one drop unless we decrease the rights of consumptive users in the United States.

"Mr. TIPTON. This is correct, sir" (reporter's transcript, p. 2400).

CHAPTER V. OWNERSHIP AND CONTROL

The treaty commits the American Section of the Commission to take over property which by act of Congress and by contract with the United States has been pledged and dedicated to the public service in the United States.

With reference to the Colorado River there are special provisions in the treaty requiring the American Section to take title to certain real property (art. 12c and 12d), and this unnecessarily. The proponents admit all such matters could be handled by local contracts.

"If thought desirable, these and similar matters can be handled by interdepartmental agreement among the various American agencies, which might be involved.¹⁸ * * * *

The property so required to be acquired and taken is property that since 1928 has been openly and notoriously dedicated and pledged by act of Congress¹⁹ and by contract of the United States.²⁰ While the treaty purports to require Mexico to pay some part of the cost of a portion of the properties to be taken over, in reality the treaty gives to Mexico revenues from the sale of hydroelectric power generated at projects wholly in the United States (art. 14b).

The general provisions of the treaty give the American Section full power to acquire and hold all real and personal property to the extent and at locations to be determined by it.

A composite of these powers set out in article 23 of the treaty are—

"* * * to acquire, in accordance with their respective domestic laws any private property that may be required for the construction of said work, including main structures and their appurtenances and the construction materials therefor, and for the operation and maintenance thereof. * * *

¹⁸ See p. 99 of the black book filed with the committee, entitled "Statement by the Commissioner" (p. 174, hearings, printed).

¹⁹ Sec. 7 of Boulder Canyon Project Act.

²⁰ All American Canal contract, arts. 14, 16, and sec. 12 of art 17 thereof.

"Each Section of the Commission shall determine the extent and location of any private property to be acquired * * *."

"Each Government shall retain through its own Section of the Commission and within the limits and to the extent necessary to effectuate the provisions of this treaty, direct ownership, control, and jurisdiction within its own territory and in accordance with its own laws, over all real property—including *that within the channel of any river*—rights-of-way and rights *in rem*, that it may be necessary to enter upon and occupy for the construction, operation, or maintenance of all works constructed, acquired, or used pursuant to this treaty." and in article 24:

"Each Section shall have, to the extent necessary to give effect to the provisions of this treaty, jurisdiction over the works constructed exclusively in the territory of its country whenever such works shall be connected with or shall directly effect the execution of the provisions of this treaty."

The foregoing language in and of itself might appear not unusual. However, it becomes highly significant in the light of the treaty as a whole and in the light of certain avowed purposes and objects traceable to the American Commissioner and the State Department.

In 1941, Mr. Charles A. Timm now divisional assistant in the Division of Mexican Affairs, Department of State, published an article or book concerning the history of the International Boundary Commission, United States and Mexico. Then a professor of governmental economics at the University of Texas, Mr. Timm in the publication discussed, in collaboration with L. M. Lawson, the American Commissioner, not only the history of the Commission but also what in his opinion should be proposed as a treaty between the two countries covering the Rio Grande and Colorado Rivers.

In summing up the desirable objectives of such a treaty and the purposes to be accomplished thereby, he wrote:

"* * * It is believed that the powers of the Boundary Commission should be increased so as to give it more effective control over situations along the boundary in its entire length both land and water. * * * It is suggested, moreover, that the essential connection between developments on the non-boundary portions of the rivers and their tributaries and the solution of strictly boundary problems is so close as to make it advisable to tie the Commission in some way with all such developments. * * * The Commission can scarcely reach any agreement on water storage and apportionment if it has no effective control over the waters in tributaries in the non-boundary portions of the main stream. To have private, or even local public, control over water in these river basins is to complicate the general picture to an almost hopeless degree. * * * As a matter of fact, control by the Commissioners, each in his own State, would take the form, as to water flow, largely of regulating the daily, weekly, monthly, and annual discharge for each reservoir in both river basins. * * * There would be serious opposition in each State to the concentration of such power in an international agency or even in a single national agency. Furthermore, it would probably not be politically feasible to attempt any construction program in Mexico calling for financial assistance by the United States. * * * Another feature * * * is that all existing irrigation, drainage, flood control, and power projects in these river systems should be nationalized and all such future projects should be undertaken by the respective national governments. Privately owned utilities and irrigation companies should be excluded altogether; and present ownership, wherever it exists, by local governments should be replaced by national ownership." (See pp. 236 to 241, Timm's University of Texas publication on "The International Boundary Commission, United States and Mexico.")

As recently as March of 1944, the same Charles Timm, while in the Department of State and working for the treaty, was permitted to write in the March 25, 1944, Department of State Bulletin as follows:

"Considered in the light of previous treaties relating to the use of water from international streams for various purposes, it is not improbable that the treaty of February 3, 1944, now awaiting action in the Senate, may come to be regarded as the most important of its kind in the history of the world, both in the range and scope of its provisions and in its social and economic significance. It is more than a mere division of water between two countries: It provides the administrative machinery and the principles for international cooperation in the development of these resources. As such, it may well be taken as a model for future treaties governing international streams."

Turning now to the language of the treaty in question, and in particular to the last paragraph of article 23, the full force, significance, and intent of the provision

concerning taking title to " * * * all real property—including that within the channel of any river—* * *" is apparent.

In other words, the provisions of this treaty are broad enough to authorize this Commission, with the consent only of the Secretaries of State, to determine upon a policy of complete federalization, and in furtherance thereof, the American Commissioner to take the private and State title to river beds, and to nationalize all projects within a boundary river basin. If this Treaty is ratified, and such a program is determined upon, the Congress will have lost all power to now or hereafter stop or limit it.

CHAPTER VI. INTERNATIONAL BODY

What is the purport and significance of giving the International Boundary Commission the status of an international body?

By the provisions of article 2 the Commissioner and some of his staff are given diplomatic immunity.

The Commission as such is made an international body. Article 2 provides:

"The Commission shall in all respects have the status of an international body and shall consist of a United States section and a Mexican section."

A partial disclosure of the purpose of this provision is contained in the testimony of counsel for the Commission, Mr. Clayton:

"But as far as recourse to the courts is concerned, I may say that while the Commission as a body, being an international body, is not amenable to suit, because there is no court that has jurisdiction over it now, the American Commissioner is just as amenable to suit as the Secretary of Interior * * *."²¹

A recent opinion of the United States Supreme Court, however, indicates that not only is an "international body" beyond Court jurisdiction, *but at members of the Commission and the Secretary of State and agents or agencies that might be called upon to carry out the decisions of the Commission are beyond the jurisdiction of the Court.*²²

CHAPTER VII. DECISIONS OF THE COMMISSION

The decisions of the Commission or of the Commissioners made in connection with powers conferred by the treaty, are, by the nature of the matters affected thereby, presumed to be based upon the discretion or judgment of the Commission or Commissioner, and are by reason thereof practically immune to reversal.

The treaty authorizes the Commission, through each section in its own country, to construct and operate flood-control, storage, and diversion works and hydroelectric projects, and to make and enter into agreements between the two countries binding upon the two nations.

In a larger sense the Commission, through the sections and the sections through the Commission, can by agreement control and operate not only water conservation and diversion works, but also hydroelectric power generation and the distribution and exportation thereof.

The Commission, and the sections in their own country, are authorized to take and hold title to any property—including the bed or channel of any river—where deemed connected with or directly affecting the treaty or agreements that may be made in connection therewith (arts. 23 and 24).

In the Colorado River Basin the outstanding problem will always be the availability of water. By this treaty and by possible agreements thereunder, this has been enlarged to include hydroelectric power, generation and distribution, including export.

A more detailed analysis of the special and general jurisdiction and powers²³ will disclose that both the American Section and the Commission have far-reaching determinations within this country and throughout the entire Colorado River Basin.

The treaty provides that the Commission may make its own rules and regulations to govern its procedure (art. 25). If a project as to water or power is agreed upon—regardless of where the project might be located in the basin—the Commission need merely agree that it is required in connection with the treaty or some agreement by the Commissioners made after ratification of the

²¹ See p. 301 of transcript of hearing before Foreign Relations Committee. See p. 133 of hearings (printed).

²² See opinion of Justices Black and Douglas in the case of *Z & F Assets Realization Corporation v. Hull*, at p. 834 hereof.

²³ See ch. IV, p. 820 hereof.

treaty, and arrive at a decision (art. 25). The decision of the two Commissioners is forwarded to their respective Secretaries of State—and if not rejected within 30 days after a minute entry thereof, the decision is deemed “approved by that Government” (art. 25).

Once a decision is arrived at, the “Commissioners, within the limits of their respective jurisdictions, shall execute the decisions of the Commission that are approved by both Governments” (art. 25).

There is nothing in the treaty that requires the rules or regulations of procedure to provide for notice or any of the usual safeguards for an interested party to be heard or represented. The Commission that is to be perpetuated has existed and functioned for some purposes under several treaties since 1889. The rules of procedure so far used have not required or provided for any required notice or opportunity to be heard (arts. III and VII, Convention March 1, 1889; II Malloy, p. 1167).

As above indicated, the Commissioners, each in his own country can “execute” the decisions of the Commission. It is also provided that—“The authorities of each country shall aid and support the exercise and discharge of these powers and duties, and each Commissioner shall invoke when necessary the jurisdiction of the courts or other appropriate agencies of his country to aid in the execution and enforcement of these powers and duties” (art. 24 (c)).

Thus, there should be brought forcefully to mind the extent of the finality of the “decisions” of the Commission, whether the “decisions” are subject to court review, whether the subject matter delegated by the treaty to the Commission and Commissioners is within the jurisdiction of our courts at all, and just as important—the question of immunity from court jurisdiction of the Commission, Commissioners and the agents and agencies that might act under them. This is a topic and subject so important as to warrant separate and full discussion by itself.²⁴

The proponents attempt to avoid the seriousness of these matters by saying that the treaty provides that the Commissioner may “invoke the jurisdiction of the courts * * * to aid in the execution and enforcement * * *” of the powers and duties given (art. 24 (c)). Also, that there are provisions, such as in article 23, having reference to the section doing things “in accordance with its own laws.”

Attention is called to the fact that in the main, outside of the physical taking of specified real property, the rights that will in the Colorado Basin be most affected are by nature intangible. The right relating to the benefits of storage is of such a nature. A determination of the availability of water in the Colorado River Basin so that Mexico could have her guaranteed minimum, a given amount of “excess,” or that a reduction is or is not called for, is a determination that may impair substantially these rights. All of the decisions relative to these matters are presumably the result of discretion or judgment on the part of the Commission and, by reason thereof, immune to reversal.

Therefore, this question seems proper. Is the Commission or Commissioner going to voluntarily go to court every time a determination affecting rights is to be made? Obviously this will not be done and is not in keeping with the practices of bureaus and agencies to which powers are delegated. If they do not have to go to court they just will not go. If they do go to court, will not their “decisions” be binding on the courts, and will the court be able to do more than “carry out” the Commission decision?

With power to execute their own decisions and being immune to court action, as appears from a recent United States Supreme Court decision,²⁵ there is by this treaty set up a virtually uncontrolled international two-man agency, with the agency and the American agent having administrative, executive, and judicial powers uncontrolled by and beyond the reach of Congress and immune in most cases to court review or jurisdiction.

CHAPTER VIII. BUDGET AND APPROPRIATION CONTROL, IF ANY

The normal power of Congress to reject appropriations can be exercised in the case of appropriations required for projects decided upon under the treaty, by the Commission, only by breaching the treaty.

The proponents contend that though the treaty is absolutely silent on any control by Congress or the Senate over appropriations required for projects decided upon

²⁴ See ch. XIV, p. 834 hereof.

²⁵ See ch. XIV, p. 834 hereof.

by the Commission or American Commissioner, once the treaty is ratified, there is an implied control over such by budget and appropriation committees of the commitments of the Commissioners and Secretaries of State.

It is submitted that this position is unfounded, and the treaty, once ratified, places the United States in the position of being obligated to provide the appropriations or of breaching the treaty.

This is the position of the State Department in the past as is evidenced by testimony at a House Appropriations Subcommittee hearing, for 1935 appropriations, page 152:

"Mr. CARR. No, it would not be a question of your following some arbitrary rule; but it would be a question as to whether we were carrying on the treaty or not. That is the only point involved; we are under obligations to carry out the treaty. It all comes down to one question, as to how much money it takes to do certain things which are required under the treaty, and the engineer of the Commission, of course, has to be in the main the determining mind as to what is essential."

It must be kept in mind that in this treaty there is not simply a division of waters. The treaty by its terms specifically vests in the Commissioners and the Secretaries of State of the two Governments power to make commitments and act on the final approval of only the respective Secretaries of State (art. 2). Therefore, the treaty by its own terms negatives the need of action or approval otherwise before the two Governments are committed.

If there is actually any understanding or implication to the contrary, then certainly it should be put in plain language. Until this is done the treaty and protocol will certainly be construed as committing the two Governments when the two Secretaries of State act on a matter.

CHAPTER IX. HYDROELECTRIC POWER

The treaty empowers the Commission to go into the electric power business with no reservations to Congress of even supervisorial authority over the rates for such power or the proceeds from the sale thereof.

The Commission is given power on the Rio Grande to construct and operate hydroelectric works, approved by the two Secretaries of State (art. 7). On the Colorado a part of the hydroelectric energy to be developed in the United States as authorized by act of Congress and written contracts with the United States, through the Department of Interior, is, in complete disregard of such act of Congress and contracts, given to Mexico (art. 14 (b)). The Commission is given general power to "conclude such special agreements as may be necessary to regulate the generation, development, and disposition of electric power at international plants, including the necessary provisions for the export of electric current" (art. 19).

No reservation is contained in the treaty giving or retaining to Congress or any agency of the United States any control over the terms of such agreements or any control over rates, revenues, or use of funds realized. The treaty, once ratified, would vest these uncontrolled powers in the two Commissioners and the two Secretaries of State.

The power to thus by agreement arrange these matters as might be desired cannot be by Congress taken from the Commission without Mexico's consent except by Congress breaching the Treaty. Witness the protocol to which we deemed it necessary to have Mexico's consent by treaty for the American Commissioner to utilize the Bureau of Reclamation or other Federal agencies to construct or operate certain works in the United States.²⁰

It is argued that as article 19 limits these "special agreements" concerning hydroelectric energy to "international plants" the power thus delegated is somewhat limited. A reference to article 24 (f) clearly indicates that international streams are not confined to the limitrophe or boundary portions of the two countries and as to the Colorado the whole river is an "international stream." Therefore, to be an international plant, it is only necessary that the two countries agree upon some joint use of the power therefrom.

CHAPTER X. EXTRAORDINARY DROUGHT

The meaning of the term "extraordinary drought," as used in the treaty, and the intended effect of an extraordinary drought, whatever it means, on deliveries

²⁰ See ch. XIII, p. 833, concerning protocol.

of water to Mexico, are thoroughly ambiguous and can only lead, in the future, to serious controversy.

As to the 1,500,000 acre-feet per annum of guaranteed water allotted to Mexico from the Colorado River, proponents contend that Mexico will be required to accept a reduction "in the event of extraordinary drought * * * in the United States" (art. 10 (b)).

The proponents are on record already that extraordinary drought includes known periods of low flow such as have happened for approximately 20 of the last 44 years (Reporters' Transcript, p. 194).²⁷ However, the proponents contend that the reduction cannot be applied to Mexico until two other matters happen, i. e., (1) there must be a "reduction" in use in the United States, and (2) it must be "difficult" for the United States to make the guaranteed delivery to Mexico (same, p. 232).²⁸

An analysis of the language of article 10 and of the proponents' contentions show the provisions to be ambiguous and unworkable. Their application would prevent the upper or lower basin States from holding storage for a following year.

"The CHAIRMAN. In the case he asked you about, where there was plenty of water in storage, it would not apply, for the simple reason that though you may have had a drought, it did not result in curtailment in the United States.

"Mr. CLAYTON. It would not result in curtailment in the lower basin, Senator, because the impounded water would take care of that; but it might be felt in the upper basin" (same, p. 233).

That the matter received little or no thought and that the language was loose is clear.

"Senator McFARLAND. Was there any negotiating at all in regard to setting that out as to what a drought is, how much water would have to be on hand before it would be considered a drought?

"Mr. CLAYTON. No, sir."

"Mr. CLAYTON. No, sir." (Same, p. 232).²⁹

The witness took the position that the decades of low flow in the last 44 years would be considered as extraordinary drought (same, p. 194).³⁰ Those periods of drought have happened and appear to recur at varying intervals and historically are not uncommon. In fact, the low years seem to run in cycles and are quite common (same, pp. 1014 and 1094).³¹

The proponents' contentions do not seem to square with any recognized definition of "extraordinary."

Memorandum as to meaning of the word "extraordinary."

A check of standard and law dictionaries and of case law, indicates the following definitions of the word "extraordinary." No case developed in which the word was used in connection with the word "drought." The nearest analogy relates to floods and most of the cases hereinafter referred to are flood cases.

Bouvier Law Dictionary defines the word as follows: "beyond or out of the common order or rule; not usual, regular or of a customary kind; not ordinary; remarkable; uncommon; rare."

Webster uses the definition: "beyond or out of the common order or method; not usual, uncommon; rare."

"An 'extraordinary flood' is one of those unexpected visitations whose comings are not foreshadowed by the usual course of nature" (*Jensen v. Buffalo Drainage District*, 148 Kan. 712; 84 Pac. 2nd 961).

"The word 'extraordinary' is defined in the Century Dictionary as follows: 'Being beyond or out of the common order or rule; not of the usual, customary or regular kind; not ordinary; * * * exceeding the common degree or measure, hence remarkable, uncommon, rare, wonderful.'" (Used in *U. S. v. Sheridan Kirk Control Co.* 149 Fed. 809.)

"Ordinary" is defined as an adjective and meaning of common or everyday occurrence, customary, usual * * * methodical; regular, normal. In contradistinction to the word 'ordinary,' the word 'extraordinary' is defined as being beyond or out of the common order or method; exceeding the ordinary degree, not ordinary; unusual; * * *" (*State v. Rogers* 142 Kans. 841).

²⁷ P. 92, hearings (printed).

²⁸ P. 106, hearings (printed).

²⁹ P. 106, hearings (printed).

³⁰ P. 92, hearings (printed).

³¹ Pp. 462 and 489, hearings (printed).

"An 'extraordinary flood' is one of those visitations whose coming is not foreseen by the usual course of nature and whose magnitude and destructiveness could not have been anticipated and prevented by the exercise of ordinary foresight" (*Town of Jefferson v. Hicks*, 23 Okla. 684; 102 Pac. 79; 24 L. R. A. N. S. 214).

NOTE.—The same definition is applied in: *Chicago etc. Ry Co. v. McKone* (127 Pac. 488; 42 L. R. A. N. S. 709).

"Extraordinary or unprecedented floods are floods which are of such unusual occurrence that they could not have been foreseen by men of ordinary experience and prudence" (*Soules v. Northern Pac. Ry. Co.*, 157 N. W. 823; 34 N. P. 7; L. R. A. N. S. 1917A 501).

"An extraordinary flood * * * is one which men of ordinary prudence would not have anticipated and provided for, and such a flood is not ordinary which is such as residents of the neighborhood might expect from their observations" (*City of Richmond v. Cheatwood*, 107 S. E. 830; 130 Va. 76).

"Extraordinary flood" is one of those unexplained visitations whose comings are not foreshadowed by the usual course of nature and whose magnitude and destructiveness would not have been anticipated or provided against by the exercise of ordinary foresight (*Eckland v. Casey C. C. A. Alaska*, 266 Fed. 821, 12 A. L. R. 179; *Clements v. Phoenix Utility Co.*, 237 Pac. 1062, 119 Kans. 190).

Another thought which would seem to require that the meaning of the term be set out in clearer language and a better method devised for its application is the fact that under the language of the treaty it is not the American Commissioner who makes the determination as to the existence of a drought. The United States section makes the determination of the existence of excess water, but it is to be noted that though the subject of reduction is in the same article, the determination of extraordinary drought is not left to the American Commissioner. Therefore, the determination must be in the hands of the Commission, including the Mexican Commissioner.

Therefore, the matter of determining the existence of the following matters will be passed upon by the Mexican Commissioner as to conditions in the United States:

1. Does an extraordinary drought exist in the upper or lower basin?
2. Has there been a curtailment or reduction of consumptive use in the United States, and if so, where?
3. Will it be difficult for the United States to make deliveries to Mexico of the guaranteed amount? This necessitates taking into account existing storage and the existing and prospective run-off in the United States for storage.

CHAPTER XI. "FROM ANY AND ALL SOURCES" INCLUDES RETURN FLOW THOUGH UNFIT FOR USE

We should be forewarned that the application of the term in the treaty, "from any and all sources," as construed by the negotiators, particularly those representing the United States, can but lead to controversy.

"From any and all sources" includes return flow, though unfit for use?

Concerning the quality of Colorado River water allotted to Mexico (art. 10), the proponents of the treaty claim the phrase "from any and all sources" was intended to be the equivalent of "regardless of quality." It is, however, admitted by a proponent witness that the true intent could not be written into the treaty and the Mexican Senate be expected to ratify the treaty. Another proponent claims the issue of quality of water has been "evaded" by the United States.

Various proponent witnesses have given various interpretations to the words "from any and all sources." It is clear that the term as used is ambiguous and that before the treaty is even ratified there is evidence of a lack of good faith, on the part of the United States, in its use, and no common understanding of its intent.

In January of 1944, at Salt Lake City, Mr. Charles Timm, as a representative of the Department of State of the United States, appeared before the Committees of Fourteen and Sixteen and made an official statement concerning the treaty, in which he stated:

"Perhaps I may go ahead and say that agreement has been reached with the representatives of Mexico" (p. 15, Proceedings of Committees of Fourteen and Sixteen, Salt Lake City, January 28, 1944).

In the reading of a prepared statement giving only a general outline of the treaty, mention of return and drainage flow was made as follows:

"It is desired also to reiterate the fact that the Department succeeded, after considerable effort, in incorporating provisions that assured credit for return and drainage flows" (same, p. 19).

Thereafter, the following questions and answers:

"Mr. Dowd. Is there anything in the treaty on the quality of water to be delivered to Mexico?

"Dr. TIMM. Not in the treaty, but again we had quite a problem there. You may recall that I did make some statement on drainage and winter flows, return flows. There was frankly strenuous objection on the part of Mexico. They objected to the omission of the quality, but we succeeded in evading it" (same, p. 21).

The aforesaid meeting at Salt Lake City was held on January 27 and 28, 1944. The treaty was signed February 3, 1944. Therefore, before the treaty was signed the issue of whether return flow which Mexico was to be charged with might be unfit for use was known to the State Department and the issue had been "evaded."

At the current hearings before the Senate Foreign Relations Committee on January 24, 1945, Mr. Frank B. Clayton, counsel for the International Boundary Commission, at page 235 of the reporters' transcript of the hearings, stated (p. 107, hearings, printed):

"What is the significance of those words, 'from any and all sources, and wherever these waters may arrive'?

"The representatives of the United States insisted upon those words in the treaty. They were objected to by Mexico, for the simple and obvious reason that the United States wanted to secure credit for all water of any kind, wherever it might come from, that actually flowed across the boundary line, whether it was drainage water from projects within the United States, or whether it was used for sluicing upstream and could not be put to beneficial use below the floodwaters, or waste waters of whatever kind."

Mr. Tipton on January 29, 1945, at the current hearings testified as follows:

"Senator DOWNEY. Mr. Tipton, is there any statement in the treaty as to the quality of water that must be delivered by the United States to Mexico?

"Mr. TIPTON. We are protected on the quality, sir.

"Senator DOWNEY. That is, you would mean by that statement that we could perform the terms of our treaty with Mexico by delivering to her water that would not be usable?

"Mr. TIPTON. Yes, sir (same, p. 610) (6. 322, hearings, printed).

"Senator DOWNEY. Mr. Tipton, you are then stating to this committee that in your opinion if the United States wanted to use or reuse this water to such an extent that 500,000 or 750,000 acre-feet of this water would not be of any value for irrigation purposes as delivered under the schedules of Mexico, we would have a right to do it?

"Mr. TIPTON. Yes, sir (same, p. 614) (p. 323, hearings, printed).

"Mr. TIPTON. As I say, I participated in the negotiations, and I know the reason for that language. As to subsequent interpretations, I do not know. But I know the reason for the language (same, p. 626) (p. 324, hearings, printed).

"Senator DOWNEY. Would you still be of the opinion that from the language of the treaty itself a court or an international arbitral tribunal would not hold that Mexico was entitled to water that was fit for irrigation purposes?

"Mr. TIPTON. That is my unqualified opinion, Senator, because the language of the treaty resulted from these conversations that you mention, and the language of the treaty was just as plain as it was possible to make it, and in my unqualified opinion the language of the treaty is such that Mexico could not ask for more water than 1,500,000 acre-feet for any purpose whatsoever.

"Senator DOWNEY. You do not think that just adding three single words, 'regardless of quality,' would have made it any plainer?

"Mr. TIPTON. I think that might have had some effect on ratification before the Mexican Senate. The language of the treaty is perfectly plain (same, p. 678) (p. 341), hearings, printed) altered.

"Senator DOWNEY. But you have already told us that there are documents signed by the Mexican Government in which they agree to take water regardless of its quality.

"Mr. TIPTON. No, sir; I did not make any such statement" (same, pp. 681-682) (p. 343, hearings, printed).

It is, therefore, plain that even, assuming the language "from any and all sources" or "for any purpose whatsoever" as used in article 10, covers waters from return flow, there are several matters in relation to that language which should be inquired into—

1. The language "from any and all sources" in article 10 will undoubtedly be interpreted as empowering the American Commissioner or the Commission to take or get the guaranteed allotment of water to be delivered to Mexico "from any and all sources"; i. e., from such sources on the Colorado and the tributaries as it may be found necessary to go to to make good the guaranty.

2. For the purposes claimed by the proponents of the treaty the language is far from clear and in fact entirely ambiguous.

3. The language could of itself never be said to require Mexico to take water regardless of its quality though unfit for use.

4. A negotiator for the State Department contends that the issue was "evaded."

5. If the claimed intent, i. e., regardless of quality, were written into the treaty, it probably would never be accepted by Mexico.

6. A fraud is being perpetrated which is bound to bring difficulties and calls for a Senate investigation.

CHAPTER XII. GUARANTEED ANNUAL QUANTITY

The possible effect on the United States water users of *guaranteeing* water to Mexico and the lack of clear language setting forth the understanding as to the quality of the water both provide rather positive assurance of controversy between the countries after the approval of the treaty.

Article 10 of the treaty *allots* to Mexico "from any and all sources" waters of the Colorado River.

Subdivision (a) of the article provides that there is to be delivered "a guaranteed annual quantity of 1,500,000 acre-feet * * *."

Subdivision (b) provides that Mexico is to have "any other quantities arriving at the Mexican points of diversion * * *."

The article as a whole seems to be poorly drafted and is replete with ambiguities. Among these ambiguities are the following:

1. What is the purpose and purport of the word "guaranteed" in the phrase "guaranteed annual quantity"?

Mr. Clayton of the proponents stated:

"Question. Now, would you tell us how you would think the meaning or effect of that treaty might be varied if the word 'guaranteed' were stricken out?"

"Answer. I don't think it would make any material difference, Senator" (reporter's transcript, p. 327; p. 143, hearings, printed).

2. If the word has no meaning, then why was it used? Certainly the negotiators for the United States should have some idea as to why it was used. Does it mean that some compensation is to be paid for any failure? Does it mean a first lien on the waters of the Colorado system?

3. The phrase concerning the allotment to Mexico reads, "of the waters of the Colorado River, *from any and all sources*." It is claimed that the italicized words were used for the very purpose of enabling the United States to deliver to and charge Mexico with "return flow" regardless of quality. This is more fully discussed in chapter XI hereof, page 39, et seq.

However, it is submitted that the language is more properly and logically subject to the interpretation that the guaranteed allotment is not limited to waters from any particular source, but that Mexico is guaranteed 1,500,000 acre-feet from any and all sources available.

"Question. The result of the treaty, if ratified, is that the United States Government in perpetuity guarantees to Mexico 1,500,000 acre-feet of water, which is a demand on all of the present storage facilities of the river and on all the storage facilities that may be built in the future, that cannot be decreased by one drop unless we decrease the rights of consumptive users in the United States?"

"Answer. That is correct, sir" (reporter's transcript, p. 2400).

4. In subdivision (b) of article 10 there is, if not a commitment of 3,000,000 acre-feet per annum to Mexico, at least there is such a loose use of language as to create the possibility of such a construction. Subdivision (b) gives to Mexico, in addition to the guaranteed 1,500,000 acre-feet, "any other quantities arriving at the Mexican points of diversion." In the last sentence of the first paragraph of subdivision (b) we find:

"Mexico shall acquire no right beyond that provided by *this* subparagraph by the use of the waters of the Colorado River system, for any purpose whatsoever, in excess of 1,500,000 acre-feet annually."

Note that the 1,500,000 last mentioned is not referred to as "the guaranteed" 1,500,000 acre-feet, as it is in the last paragraph of article 10. There is nothing to tie the two figures of 1,500,000 acre-feet together as being the same, even though so intended. It certainly needs clarification. (See testimony of Greig Scott, reporter's transcript, p. 2251, and of R. J. Tipton, reporter's transcript, p. 2206.)

5. In the last paragraph of article 10, in relation to a reduction in the 1,500,000 acre-feet guaranteed allotment, a condition of such reduction is "in the event of extraordinary drought * * *." A chapter is devoted to this term. (See ch. X, p. 34 hereof.) Aside from the several factors to be determined and considered in applying the term, attention is called to the fact that the reduction is to be based on consumptive uses in the United States—not on diversions or quantities used for irrigation. Consumptive use is defined in the treaty as: "The use of water by evaporation, plant transpiration, or other manner whereby the water is consumed and does not return to its source of supply. In general, it is measured by the amount of water diverted less the part thereof which returns to the stream."

It is submitted that considered in the light of the other factors discussed in chapter X, page 34 hereof, it is only too apparent that the formula and theory are unworkable. Also, it should be considered that once the water reaches Mexico there is no "return flow" so far as the United States is concerned and consequently no comparable determination of reduction in use.

It is therefore submitted, as a whole, that article 10 is so ambiguous and unworkable as to require a complete rewriting.

CHAPTER XIII. PROTOCOL

The protocol to the treaty is very interesting and significant both because of the necessity that both countries execute it and because it deals not entirely with boundary matters but also with works for storage or conveyance of water, flood control, stream gaging, etc., located wholly within either of the countries and used only partly for the performance of treaty provisions.

The protocol signed November 14, 1944, to the treaty signed February 3, 1944, deals with domestic affairs in each country. As to the United States, it purports to provide only—

(a) As to Federal works in the United States used only in part for treaty purposes, a United States Federal agency may construct and operate the same.

(b) If located on or along the international boundary, *or wherever located*, if used in whole for treaty performance jurisdiction shall be in the Commission or American Commissioner.

In fact, the protocol provides and establishes, in effect:

(a) That the Commission or American Commissioner relinquishes no jurisdiction over State or State agency or private projects and retains direction of affected Federal agencies.

(b) A precedent and a construction of the treaty that Mexico has a voice by this treaty in our internal domestic affairs and that it is necessary for the United States to have Mexico's consent to determine who or what agency in the United States is to handle works in the United States which are used only in part for treaty performance.

The protocol also establishes a fact which the treaty proponents theretofore denied, i. e., that the jurisdiction and powers of the Commission and American Commissioner extended in the United States away from the land and river boundaries between the two countries and upstream on the Colorado into both the upper and lower basins.

If, as heretofore contended by the proponents, the Commission and American Commissioner had no jurisdiction or power away from the international boundary, why then the provisions of the protocol that as to works away from the boundary and used only in part for treaty purposes, the jurisdiction given by the treaty shall be exercised by "Federal agencies"? Also, why the provision, after reserving to the Commission or section works "on or along the boundary," retaining in the Commission or section works elsewhere used exclusively for treaty purposes?

Also, why the protocol at all—if it was and would not be necessary to have Mexico's consent by treaty to our determining in the United States the agencies we as a domestic matter desired to have handle construction and operation matters in the United States?

Does not the execution of the protocol establish that the treaty delegates beyond the control of Congress the powers and jurisdiction vested in the Commission and Commissioners? If not, why the necessity of Mexico's consent to the changes

effected by the protocol as to what agency in the United States should construct and operate certain works in the United States?

CHAPTER XIV. REVIEW, IF ANY, BY THE COURTS

The courts will not be available as a check on the acts of the Commission carried out within the enlarged field of activity provided for by the treaty.

It has been pointed out heretofore that the proposed treaty reserves to Congress no control over the exercise, by the Commission, of broad powers given it by the treaty, powers which have elevated it to a great construction and operating public-works agency, an administrative and legislative department, and a quasi-judicial agency, the sphere of influence of which covers the waters of two of the principal continental rivers.

Having in mind some of the more far-reaching of the provisions of the treaty—

"The application of the present treaty, the regulation and exercise of the rights and obligations which the two Governments assume thereunder, and the settlement of all disputes to which its observance and execution may give rise are hereby entrusted to the International Boundary and Water Commission, which shall function in conformity with the powers and limitations set forth in this treaty" (art. 2).

"The two Governments shall conclude such special agreements as may be necessary to regulate the generation, development, and disposition of electric power at international plants, including the necessary provisions for the export of electric current" (art. 19).

"Each section of the Commission shall determine the extent and location of any private property to be acquired within its own country and shall make the necessary requests upon its Government for the acquisition of such property" (art. 23).

"In general, to exercise and discharge the specific powers and duties entrusted to the Commission by this and other treaties and agreements in force between the two countries, and to carry into execution and prevent the violation of the provisions of those treaties and agreements. The authorities of each country shall aid and support the exercise and discharge of these powers and duties, and each Commissioner shall invoke when necessary the jurisdiction of the courts or other appropriate agencies of his country to aid in the execution and enforcement of these powers and duties" (art. 24 (c)).

"To settle all differences that may arise between the two Governments with respect to the *interpretation or application* of this treaty, subject to the approval of the two Governments. In any case in which the Commissioners do not reach an agreement, they shall so inform their respective Governments reporting their respective opinions and the grounds therefor and the points upon which they differ for discussion and adjustment of the difference through diplomatic channels and for application where proper of the general or special agreements which the two Governments have concluded for the settlement of controversies" (art. 24 (d)).

It becomes pertinent to inquire as to the attitude of the courts with respect to grievances which might arise against the *Commission or Commissioner* operating under the authority contained in these provisions.

An examination of one of the most recent decisions of the Supreme Court of the United States shows rather conclusively that the courts will not be available as a check on the exercise of such powers.

In the case of *Z and F Assets Realization Corporation v. Hull*, reported in 311 U. S. 470; 85 Law Ed. 289, the facts, briefly stated, were as follows: On August 10, 1922, by executive agreement signed between Germany and the United States, there was provided a mixed commission "to determine the amount to be paid by Germany in satisfaction of Germany's financial obligation under the treaty of July 25, 1921." The agreement provided for a commission of three members, one selected by each Government, and the third, or the umpire, selected by agreement between the two Governments. On March 10, 1928, the Congress enacted the settlement of War Claims Act, in which the Secretary of State was directed to certify the awards of the Mixed Claims Commission to the Secretary of the Treasury, who in turn was required to pay the awards so certified, according to specified priorities, out of a German special deposit account thereby created. The plaintiffs were beneficiaries under prior awards made by the Commission, which awards had not been certified or paid. The Commission

subsequently made other awards, and the plaintiffs sought by court action to enjoin the payment of the subsequent awards on the ground that the proceedings of the Commission with respect thereto were null and void, and also on the ground that if such awards were paid there would not be sufficient funds in the account to pay the awards made for the benefit of the plaintiffs.

The lower court refused to assume jurisdiction on the ground that a political rather than a judicial question was presented, and the court pointed out that where matters are left by treaty for settlement or determination by the political or executive heads of the respective governments, such matters may not be subjected to review by the courts.²²

Justices Black and Douglas, concurring in an opinion of the United States Supreme Court sustaining the lower court, said, on page 491-3 of the Supreme Court report:

"The fundamental questions raised by the petition, as presented to the district court, were: Who can challenge the propriety of the Commission's award? Does the judicial branch of the Government, rather than the political, possess the power finally to determine the propriety of the award? And the fact that petitioner sought to challenge the Commission's power by proceedings against the Secretaries of State and Treasury, and not by direct suit against the Commission is, immaterial. If petitioners cannot directly attack the absence of congressional consent, assail the propriety of its awards through the expedient of suits against others charged with the responsibility of executing the final determination of the Commission.

"Whoever is entrusted finally to determine what Government must or must not do, in a dispute between nations, is the ultimate arbiter of momentous questions of public policy affecting the Nation's relations with the other countries of the world.

"The controversy here bears all the earmarks of the type of controversy which our Constitution has confided exclusively to the executive or political departments of the Government, and concerning which this court has many times repeated, 'that the action of the political branches of the Government is a matter that belongs to them is conclusive.'"

Before further reference to the circuit court and the United States Supreme Court decisions in the above-mentioned case, attention is herewith called to the following:

The treaty and protocol, in and of themselves, contain full authority to the Commission and the American Commissioner, to—in the United States, interpret and apply the treaty (art. 24d); exercise and discharge the powers and duties intrusted to the Commission by this and other treaties and agreements (art. 24c); determine the property to be acquired (art. 23); make their own rules and regulations concerning procedure (art. 25); and execute their own decisions (art. 25). It is true that these matters and determinations are subject to approval or rejection, so far as the United States is concerned, but only by the *Secretary of State*, not by *Congress* or the *Senate*. The treaty may well be said to be self-executing and to need no legislation to aid or carry it into effect, at least as to certain designated projects, the appropriations for which are mandatory if a breach of the treaty is to be avoided. *Certainly and positively there is reserved in the treaty no congressional, Senate, or court jurisdiction, review, or control.* Such references as are contained in the treaty to domestic laws or courts (arts. 23 and 24c) relate merely to using the court as the instrumentality to carry out the Commission's or Commissioners' determinations. In other words, the courts need not be resorted to but *may* be where found necessary. If the Commission or American Commissioner, *in the United States* do not elect to resort to the courts, it is admitted by the proponents that the Commission is not subject to suit (Official printed hearings, p. 133). The question now arises as to whether, *if it is not so provided in the treaty*, there is any jurisdiction or power to review in the courts of either (1) *the persons*, i. e., American Commissioner, Secretary of State, Bureau of Reclamation, or other representatives while carrying out the directions in the United States of the Commission, American Commissioner, Secretary of State, or those acting for them,, or (2) over the *subject matter* of the treaty.

It is to these features that attention is most urgently called. A reading of the United States Circuit Court of Appeals decision in *Z and F Corporation v.*

²² See the report of the case in the circuit court of appeals, 114 Fed. 2d, p. 464, for a full and complete discussion of the court cases which since the time of Chief Justice Marshall have enunciated and adhered to this principle of law and policy.

Hull, 114 Fed. 2nd 464 and the United States Supreme Court decision, 311 U. S. 470, affirming the same, seems to clearly indicate that *unless a reservation is made in the treaty*, matters made the subject of treaty provisions are political. Also, the *agents* designated to carry out the treaty, *though acting for the Commission or Secretary of State*, are not subject to suit or the jurisdiction of the court.

Considering that the treaty is in perpetuity, should not the greatest of care be used to insure proper reservations retaining in Congress appropriate controls. This is particularly necessary where it appears that a treaty supersedes previous congressional legislation on the subject involved. (See *Cherokee Tobacco v. U. S.*, 78 U. S. 616 at 621.)

Therefore we should pause and consider the effect of this treaty upon the compact, the Project Act, and the power of Congress to protect and correct against violations of these acts and contracts made under the authority of the Project Act, which violations may come about through treaty performances.

That there may be no misconception of the thoughts here presented the following should be clearly understood:

1. The propriety of holding matters entirely political as *between nations* to be without the jurisdiction of the court is one thing.

2. The placing, by broad general language, of internal domestic affairs of the United States in the hands of treaty agents is quite another thing. This method of placing such domestic affairs beyond the Congress and courts should never be tolerated. It is contrary to all concepts of our system of Government. It is unnecessary and especially, when it is in perpetuity, it is unthinkable.

3. Proper reservations giving Congress needed control as to the handling of internal matters in the United States cannot be objected to by Mexico. We should not have to get Mexico's consent by protocol hereafter.

4. Included in a reservation of congressional control, *as to our domestic matters* there should also be a sane reservation of *court review and jurisdiction* as to domestic matters. The proponents say this is implied. Then why any objection to it being so stated rather than to later find that we have in perpetuity lost such control?

If there is no other matter before the committee, we will recess until 10:30 tomorrow morning in this room.

(At 4:45 p. m., an adjournment was taken until Wednesday, February 7, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

WEDNESDAY, FEBRUARY 7, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room, the Capitol, Senator Tom Connally, chairman, presiding.

Present: Senators Connally (chairman), Thomas of Utah, Green, Tunnell, Lucas, Johnson of California, La Follette, White, and Wiley.

Also present: Senators Downey, McFarland, Millikin, and Murdock.

Senator TUNNELL (presiding). The chairman, Senator Connally, has asked that we call the session to order, and to ask for Mr. Watson, the State engineer from Utah. Is Mr. Watson here?

Mr. WATSON. Yes, sir.

Senator TUNNELL. We understand you have to go back to Utah today, Mr. Watson.

Mr. WATSON. Yes, sir.

Senator MURDOCK. Our legislature, Mr. Chairman, is in session. Mr. Watson is our State engineer, and I understand from him that it is imperative because of pending legislation involving his department, that he get back there as soon as he can, and we appreciate thoroughly the courtesy of the committee in allowing him to go ahead this morning.

STATEMENT BY ED H. WATSON, STATE ENGINEER FOR THE STATE OF UTAH

Senator TUNNELL. Give your name and position for the record.

Mr. WATSON. I am State engineer for the State of Utah. My name is Ed H. Watson.

Senator TUNNELL. Your name is just Ed, it is not Edward?

Mr. WATSON. Yes, sir.

My work consists in the general administrative supervision of the waters of the State, including their appropriation, apportionment, and distribution. I also represent the State in matters pertaining to interstate compacts or agreements governing the waters of interstate streams.

During the past 3 years I have attended the meetings of the committees of fourteen and sixteen of the Colorado River Basin. At most of these meetings the Bureau of Reclamation and the International Boundary Commission were represented. These meetings were called in order to consider matters pertaining to the proposed

treaty with Mexico relating to the division of the waters of the Colorado River. For many years much work has been done by both the States and the Federal Government in compiling information relating to the water of the river system. Fifty years ago, in 1895, stream-gaging stations were installed on the Colorado River system, and in 1902 systematic stream gaging was commenced at Yuma. Also, in 1914 a special allotment of \$50,000 was made by Congress to study the waters of the entire basin. The Fall-Davis report was written as a result of this work. Since that time and during the last 20 years exhaustive studies have been made to ascertain the facts that would permit the development of the waters of the Colorado River. I mention this, gentlemen, merely to show that the proposed treaty has a background of study and investigation.

Now, we, in Utah, are very jealous of our rights on the Colorado River. They are our greatest economic asset. But the waters covered by these rights have been going to waste into the Gulf of California from time immemorial. It was to protect ourselves against downstream users who, because of climate and other natural and favorable conditions, might put these waters to beneficial use long before we might be able to do so, that we signed the Colorado River compact. We well knew that no development could be undertaken on the river until the conflicting rights between the States had been properly and justly settled and defined and that our nonuse of the river's water would not forfeit our rights. It was also necessary that this be done before the Boulder Dam could be built by the United States, which our sister State, California, so greatly desired.

Now, gentlemen, we have faith in the Colorado River compact and in the pledges of good faith of our sister States. But this is not all. There is another user further down the stream, a sovereign state, and as against her we have no guaranty that she will not put to use and claim those very same waters, the right to which was settled under the Colorado River compact. It is for the reason that still further development can be undertaken on the river in Mexico that we must have an understanding, an agreement, a treaty, if you please, with our neighbor.

Now, as has been said, we know that almost half the yield of the river is now going to waste into the sea and will continue to do so for many, many years to come. We know also that our neighbor is fast putting these waters to further use, and we fear that if we do not act now to protect these rights, as time goes by we may ultimately lose them forever. We believe that if Mexico builds up an agricultural civilization by utilization of these waters, and she is amply able to do so, ungoverned by treaty, that she may establish a use that will becloud the title to what we consider our birthright. That is a condition that we face and not a theory. Therefore, shall we ignore these conditions? Shall we say to our sovereign neighbor, "Use these waste waters, if you dare, but you do so at your peril"? Shall we contend that "might makes right," or that a self-serving declaration is effective? Shall we ignore the sorry spectacle, founded on this very doctrine, that is going on before our very eyes in the world of today? Or shall we sit around the table and with the facts before us arrive at an equitable and just conclusion?

Now, I do not favor allowing Mexico more water than she is fairly and justly entitled to. I believe that those who have negotiated the

treaty have had in mind this very thing. This is not a humanitarian move. It is prompted by common sense and common sense demands it. Delay therefore in placing a ceiling on Mexico's use of these waters will be more costly as the years go by. As we go further, we may fare worse. I believe that the limits placed by the present treaty are just.

Now, the opponents to the treaty claim that 80 percent of the water users of the Colorado River system are against this treaty. Gentlemen, in Utah this is simply not true. In the upper basin above Lees Ferry there are 261,000 acres of irrigated land, and among the owners of this land there is no opposition. Only on the Virgin River, a small area in the extreme southwestern part of the State, situated in the lower basin and having not one-tenth the area in irrigated land that we in the upper basin have, has there been any opposition. Those who have appeared before you opposing this treaty are prospective users living outside the basin. But in the upper Colorado River Basin, where the water users live and struggle with climate and soil in order to make their livelihood, there is no opposition to the treaty.

In conclusion, may I say that I have faith in the United States Government and in its agencies. I believe that many of the objections made by the opponents to the treaty will automatically disappear as the river comes under greater control. It is now a wild and unruly stream only under partial control. Those of us who have lived on many of the tributaries of the river well know what it can do in time of flood. The treaty, however, deals with a controlled river. Let us therefore protect our rights now before others build up uses against them.

Senator TUNNELL. May I ask you this: You are speaking of the division of the water and the share of Utah. I have not been here during all the testimony, but has there ever been any division between the States, except the upper and lower division?

Mr. WATSON. That is the way the Colorado River compact allotted the water. It divided it between the basins. There has been no allocation or agreement dividing the waters of the upper basin.

Senator TUNNELL. How is it contemplated that that will be arrived at—that is, the amount, for instance, that Colorado would have and that Utah would have on the upper basin?

Mr. WATSON. That is a difficult question to answer. If it were based on the amount of water furnished, then Colorado, of course, furnishing about two-thirds of the water, and Utah about one-eighth, if it were upon that basis, those would be the fractions by which it would be taken, but I really do not know how that will be done.

Senator TUNNELL. There is no arrangement as to that?

Mr. WATSON. Thus far nothing has been done about it.

Senator TUNNELL. Now, there is no State that is in position to take the water of Utah away, is there—or is there?

Mr. WATSON. If Mexico were to build up rights on the Colorado River and build up a civilization, then the upper basin would suffer, and Utah would be a member of that upper basin because it would be our water largely that would be put to use if a civilization were built up in Mexico utilizing those floodwaters.

Senator TUNNELL. But as I have understood the contentions at least of a part of the witnesses, it is their belief that those in the upper reaches of the river have a right to take out what they want first.

Mr. WATSON. We are governed by the compact. It is true that we are at the head of the stream, but we are governed by the Colorado River compact.

Senator TUNNELL. But you are not using the amount that you are entitled to under that compact?

Mr. WATSON. No, sir.

Senator TUNNELL. Is the lower portion using its share?

Mr. WATSON. I would say not.

Senator TUNNELL. So that both the upper and the lower portions of that basin have water coming to them that they are not using and that is going to waste?

Mr. WATSON. Yes; I think, by and large, that is true. California has put more water to beneficial use than any other State; how much of her share, I do not know.

Senator TUNNELL. Do you have any idea how much the upper portion of that basin is using, the total?

Mr. WATSON. We are using about 2,500,000 acre-feet of water in the entire upper basin.

Senator TUNNELL. Out of 7,500,000 acre-feet that you are entitled to use?

Mr. WATSON. We are guaranteed 7,500,000 acre-feet in perpetuity.

Senator TUNNELL. So that you are using, then, about one-third of what you are entitled to use?

Mr. WATSON. About that.

Senator TUNNELL. In the Colorado River is there a flowing stream all the year, or is it just a flood part of the time, and none, the rest, in your portion of the basin?

Mr. WATSON. In our portion of the basin or of the system the Colorado River flows continuously. It has not reached the stage where there is no water at any time of the year. It is very high in the flood season and rather low in the fall.

Senator TUNNELL. I mention that because you mentioned the flood season and the condition of the flood period in Utah. Now, let us see, what State is it that it rises in?

Mr. WATSON. The Colorado River rises in Wyoming, Colorado, and Utah, and part in New Mexico.

Senator TUNNELL. There are some of the branches in each State?

Mr. WATSON. Yes; all of the States except California furnish water. Nevada furnishes the least.

The CHAIRMAN. I just want to ask one question. You said awhile ago, about the water users in the basin, that they were not opposed to the treaty.

Mr. WATSON. Yes.

The CHAIRMAN. Are they for the treaty?

Mr. WATSON. I would say that they would be, and yet I have not contacted them. I have heard, Senator, of no opposition among the water users in the basin in Utah; in the upper basin.

The CHAIRMAN. All right.

Senator MURDOCK. Mr. Watson, you did hear the other day the three witnesses from Utah that appeared, each one of them claiming to represent a certain segment of water users from the Colorado in Utah?

Mr. WATSON. Yes.

Senator MURDOCK. Mr. Watkins represented Utah Valley, which can get water from one of the tributaries of the Colorado River under the Provo River project. He seemed to be very emphatic in his statement that the water users there were opposed to the treaty. Is there any question in your mind but what he represents the people that he claimed to represent?

Mr. WATSON. I think he does, and I think that Mr. Watkins, or Judge Watkins, represented the water users of the Provo River, but the waters from the Colorado River have not yet been brought over to the basin. They are merely prospective users, and the waters will be brought over in time.

Senator MURDOCK. Well, but certainly the mere fact that the water is not yet being delivered does not disqualify them?

Mr. WATSON. Not at all.

Senator MURDOCK. It does not disqualify them from taking a position opposing the treaty?

Mr. WATSON. No.

Senator MURDOCK. And as I understand it, speaking for those users, Judge Watkins advised us that they oppose the treaty.

Mr. WATSON. That is right.

Senator MURDOCK. The same is true, is it not, of Fisher Harris, who represents as attorney the Metropolitan Water District of Salt Lake City?

Mr. WATSON. That is right.

Senator MURDOCK. It will be one of the big users under the Provo River Project?

Mr. WATSON. They have about 40,000 acre-feet that they propose to put into their system.

Senator MURDOCK. And then in addition to that we have evidently all of the users on the Virgin River.

Mr. WATSON. Yes.

Senator MURDOCK. They have by letter and resolution advised me that they are opposed to the treaty.

Mr. WATSON. And on the Virgin River there are about 22,000 acres of irrigated land.

Senator MURDOCK. Regardless of the area, it is true, is it not, that they oppose the treaty?

Mr. WATSON. Yes. That is, I assume they do. Senator, let me explain, I do not know how many of the water users oppose the treaty. I know there are individuals down in the Virgin River area that oppose the treaty.

Senator MURDOCK. So it would be only fair to say, would it not, Mr. Watson, that there is some opposition to the treaty in Utah?

Mr. WATSON. Yes; I have admitted that.

Senator MURDOCK. I thought your statement this morning rather indicated the contrary.

Senator GREEN. I understood the witness to say—in all fairness to him—that he said he had no knowledge of any of the present users of the water objecting.

Mr. WATSON. In the upper basin.

Senator GREEN. Yes; in the upper basin; but he made a distinction between that and prospective users, as I understood his testimony this morning.

Senator MURDOCK. Well, if you made that distinction. I did not think you did.

Mr. WATSON. Senator, just let me explain. I drew the distinction very clearly. The Virgin River is in the lower basin.

Senator MURDOCK. Yes; I understand.

Mr. WATSON. And on the Virgin River there is opposition to the treaty, above Lee's Ferry. Where the division of the two basins is made, is the upper basin, in Utah, and in the upper basin of the river among many users of the water of the river there is no opposition that I know of.

Senator MURDOCK. All right. You did make the distinction, then, between prospective users and the present status?

Mr. WATSON. Yes.

Senator MURDOCK. All right; so much for that. I would like, Mr. Chairman, to bring out through this witness what steps are necessary in the State of Utah to appropriate water.

Would you just relate that briefly, Mr. Watson?

Mr. WATSON. The law as it at present exists demands or requires that an applicant for a water right file an application in the state engineer's office; that initiates the water right.

Senator MURDOCK. And in that the applicant designates the stream from which he intends to divert?

Mr. WATSON. Yes.

Senator MURDOCK. He designates the point of diversion?

Mr. WATSON. That is right; the land on which he wishes to place the water.

Senator MURDOCK. And the means of conveying it from the point of diversion to the land?

Mr. WATSON. He describes the works that he intends to use to divert the water.

Senator TUNNELL. Excuse me, Senator. Does he also give any indication as to the amount?

Mr. WATSON. Yes; definitely so.

Senator TUNNELL. I did not infer that from the answer.

Senator MURDOCK. He definitely states in his application, does he not, Mr. Watson, the quantity of water that he intends to divert?

Mr. WATSON. Definitely so.

Senator MURDOCK. In second-feet?

Mr. WATSON. Definitely so.

Senator MURDOCK. And if it is a storage right he indicates the quantity of water that he intends to store in acre-feet?

Mr. WATSON. That is true, and he describes the conditions of storage.

Senator MURDOCK. He gives you quite full and complete information in the application as to just what his purposes are; isn't that true?

Mr. WATSON. Absolutely. Then he must commence his work within 6 months under the law to carry out the plans that he has laid the foundation for in the application, and then he must continue to put the water to beneficial use.

Senator MURDOCK. But in the event he finds that he is incapable of living up to the letter of the law with respect to diversion and use, it is within the power, is it not, of the State engineer to allow him additional time within which to complete his works and make final proof as to the beneficial use?

Mr. WATSON. That is true.

Senator MURDOCK. And the State has been rather generous, has it not, in extending time under that provision of the law?

Mr. WATSON. It has.

Senator MURDOCK. As I recall it, it can be extended for a period of 12 years by the State engineer, and at the expiration of the 12 years he may go to the district court, where he intends to divert the water and use it, and ask for even additional time from the court; isn't that true?

Mr. WATSON. Yes.

Senator MURDOCK. Now, the reason I wanted to bring that out, Mr. Watson, is this. I have always considered that the drawing and consummation of the compact between the States was the initiatory act by them in the appropriation of Colorado River water. In your opinion could not the compact be considered as such an instrument?

Mr. WATSON. That is asking me to pass on a problem that I had not given any thought to, Senator, but, off-hand, I should say that the rights to the water in the Colorado River will depend upon the compact.

Senator MURDOCK. And, having in mind the steps that are necessary under Utah law, Mr. Watson, could we not consider the compact as analogous to an application for the appropriation of water—that is, so far as Mexico is concerned, or at least, a notice to Mexico that the seven Colorado River States intended to divert and use at least 16,000,000 acre-feet of the Colorado River water?

Mr. WATSON. That is a question that I could not answer, but I would think if Mexico were placed on notice that we had the rights of this water, Mexico could govern herself accordingly; but I still believe that we must look out for our own rights regardless of the compact, to see to it that Mexico does not put these waters to use in spite of the compact and make an arrangement with her whereby she limits her use, so we may protect ourselves in the compact. I think the duty is largely ours at the present time.

Senator MURDOCK. But assuming for the purpose of the discussion here that the compact was notice to Mexico and could be considered as analogous to the application required in Utah, as to how much water the seven States intended to appropriate, then would you not under the appropriation law of our State and other States, if you are familiar with them, consider that the United States or the seven States would have reasonable time within which to complete their rights in the way of construction of works on the river and putting the water to beneficial use?

Mr. WATSON. Senator, I disagree with that viewpoint, so therefore I do not believe that I can answer it. I think that the Republic of Mexico, a sovereign State, would not be put on notice by the internal conditions that go on in the United States, and I think that if she put these waters to use without notice from the United States that she should limit that use, I think that we would be on dangerous ground. I do not think, in other words, that Mexico can take notice of our internal affairs.

Senator MURDOCK. But you think that the sovereign State of Utah, which I consider just as sovereign as Mexico, must take notice of the fact that Mexico might put these waters to beneficial use, is that your position?

Mr. WATSON. Yes.

Senator MURDOCK. You do not think there is any duty on Mexico to take notice that we are going to put them to beneficial use, but that we must take notice that she is?

Mr. WATSON. I think that we must be alert, and protect our rights, and that we must make a treaty with certain limitations, and then I believe that both sovereign parties can live up to that treaty.

Senator MURDOCK. Do you not think that we have in equity a right to demand that Mexico be on the alert and that Mexico take cognizance of what we are doing in the United States, as well as that we take notice of what she does?

Mr. WATSON. In anything as important as water rights, I think that we should stand on our own feet, and that we must be very jealous of those rights and protect them, and I think that we can do no less than make a treaty with this sovereign power in order to protect those rights as far as we can.

Senator TUNNELL. As I understood Mr. Watson, he said that he feared that Mexico might use the water.

Mr. WATSON. Yes.

Senator TUNNELL. So the actual user is what you fear?

Mr. WATSON. Yes. I think the putting to beneficial use of this water by Mexico is the thing that we must avoid, and that we must have a ceiling placed on the amount of water that Mexico can use; then I think as between two sovereign powers that we will have a protection against further use.

Senator MURDOCK. I think that is all, Mr. Chairman.

I wanted to ascertain the position of the witness.

The CHAIRMAN. All right.

Senator DOWNEY. Mr. Chairman, I have a few questions, if I may.

The CHAIRMAN. Senator Downey.

Senator DOWNEY. When you say we must put a ceiling on the amount of water that Mexico will use in the Colorado River, is there any ceiling in the present treaty, a copy of which I now hand you?

Mr. WATSON. As I understand the present treaty, Senator, there will be 1,500,000 acre-feet of water that Mexico will be guaranteed, and I assume that since the treaty is the supreme law of the land that Mexico will not go beyond that use, by the terms of the treaty.

Senator DOWNEY. You think, then, that this treaty does provide that after its passage Mexico cannot utilize out of the Colorado River water more than 1,500,000 acre-feet and 200,000 provisionally?

Mr. WATSON. That is my understanding of the treaty. Although I am not a lawyer and not an expert, that is my belief.

Senator DOWNEY. But supposing that is not the effect of the treaty at all, that Mexico almost certainly will start in and apply five or six million acre-feet within the next 5 or 10 years, would you still be for it?

Mr. WATSON. I would. I believe that the treaty is the supreme law of the land; and if the supreme law of the land means nothing to us, then constitutional government means nothing.

Senator DOWNEY. But, Mr. Watson, assume the treaty does not limit the use of the water by Mexico, that she can, right after or as soon as this treaty is put into effect, begin to apply all of the water that she wants, using our facilities, up to say 5,000,000 or 6,000,000 acre-feet, would you still be for the treaty?

Mr. WATSON. I rather think that that assumption is unwarrantable.

Senator DOWNEY. Are you familiar with the treaty?

Mr. WATSON. I have read the treaty and considered some of its terms.

Senator DOWNEY. Can you point out any language in that treaty limiting the right of Mexico to use any water that comes down there?

Mr. WATSON. I assume from my general knowledge of the treaty that the 1,500,000 acre-feet will be the ceiling and the limit. If I am mistaken, then I have misread the treaty.

Senator DOWNEY. Let me ask you this, Mr. Watson. Suppose you have misread the treaty and that Mexico in the next 20 years would beneficially apply and not violate the treaty five to six million acre-feet of water, do you not think that might then place us in a very difficult position here in the United States?

Mr. WATSON. No; I think that the treaty is the supreme law of the land, and I think that Mexico would then be put on notice not to use any more water, and if she used that water she would do so at her peril.

Senator DOWNEY. Mr. Watson, have you read the treaty, yourself?

Mr. WATSON. Yes, sir.

Senator DOWNEY. Will you turn to page 14 of the treaty, Article 10? I would like to ask you your opinion on certain of what seem to me to be somewhat ambiguous uses of language in the treaty. The treaty starts out—

Of the waters of the Colorado River, from any and all sources, there are allotted to Mexico:

(a) A guaranteed annual quantity of 1,500,000 acre-feet * * * to be delivered * * *—

and so forth.

Now, what do you think is understood, after that expression, "1,500,000 acre-feet"—"of water," or "of consumptive use," which? What do you think is understood, there?

Mr. WATSON. I think that that is "water."

Senator DOWNEY. You think that it is "water"?

Mr. WATSON. Yes.

Senator DOWNEY. Well, do you not think anybody drawing a treaty carefully would have put in the word "water," when a person might just as reasonably think it is "of consumptive use"?

Mr. WATSON. Well, if Mexico cared to waste that water, that is her business. If the water is delivered to Mexico by the United States, then the United States has fulfilled its contract.

Senator DOWNEY. Mr. Watson, you know what "consumptive use" is, do you not?

Mr. WATSON. I think I do.

Senator DOWNEY. That is the amount of water actually used up by the vegetation and lost by evaporation, is it not?

Mr. WATSON. Yes.

Senator DOWNEY. Then if that expression does mean "of consumptive use," again Mexico would have that plus the necessary amount to do your irrigation and leach out your soils, wouldn't it?

Mr. WATSON. I do not know, Senator, about that. I think that this will guarantee merely 1,500,000 acre-feet of water to Mexico and then let Mexico do as she will with that water.

Senator DOWNEY. So you would assume then that after the expression "1,500,000 acre-feet" we would have the two words "of water" rather than "of consumptive use", would you not?

Mr. WATSON. I would not pretend to alter the treaty. It is my opinion that this 1,500,000 acre-feet allots so much to Mexico and that is all.

Senator DOWNEY. Just "water," and not "of consumptive use"?

Mr. WATSON. Well, I do not know what else it could allot besides water.

Senator DOWNEY. Well, Mr. Watson, you know that under the compact the lower basin States are allotted 4,500,000 of consumptive use, are they not?

Mr. WATSON. Yes.

Senator DOWNEY. You understand that, do you not?

Mr. WATSON. Yes; exclusively beneficial use—consumptive use.

Senator DOWNEY. Yes, "consumptive use"; and you understand that if there is only 16,000,000 acre-feet in the river and no surplus, and out of our 8,500,000 acre-feet there was 750,000 acre-feet return flow that Mexico could get, you understand the other 750,000 acre-feet would have to be made up by the upper basin States, do you?

Mr. WATSON. I do not think I quite understand your question, Senator.

Senator DOWNEY. Well, let us assume, Mr. Watson, that the flow of the river in the given year is 16,000,000 acre-feet. Now, under the compact then that would all be firm water divided between the two basins and no surplus; is that not right?

Mr. WATSON. That is right, according to the assumption.

Senator DOWNEY. Yes. Now, when there is no surplus water, then the upper basin and the lower basin States have to make up the deficiency equally to Mexico, do they not?

Mr. WATSON. Yes.

Senator DOWNEY. So one-half under those conditions would have to be made up by the upper basin and one-half by the lower States?

Mr. WATSON. That is the way I understand it.

Senator DOWNEY. All right. Now, assume that while we received our over-all 8,500,000 acre-feet, our consumptive use was 750,000 acre-feet less than that, and that Mexico received that.

Mr. WATSON. Now, just a moment—750,000 acre-feet less than that?

Senator DOWNEY. Yes; that is, our consumptive use.

Mr. WATSON. Yes.

Senator DOWNEY. You know what I mean.

Mr. WATSON. In other words, you will return 750,000 acre-feet to the stream.

Senator DOWNEY. That is right—which Mexico would have—do you see?

Mr. WATSON. Yes.

Senator DOWNEY. Then Mexico would still be entitled to 750,000 acre-feet, Mr. Watson?

Mr. WATSON. That is the way I understand it.

Senator DOWNEY. Now, do you understand that under those facts, and is it your opinion, that the upper basin States would then have to make up the whole balance of the 750,000 acre-feet?

Mr. WATSON. No; I understand that after the surplus has been provided—

Senator DOWNEY (interposing). There is no surplus, under this assumption.

Mr. WATSON. I understand this treaty to be that if water is returned to the stream by return flow then it belongs to the river and that is deducted from the total that we would allocate to Mexico; and after we have furnished that water, if we can furnish no more water, that the upper and the lower basin equally divide the responsibility to Mexico.

Senator DOWNEY. I beg your pardon, but I, at least, do not quite understand your answer.

Senator MURDOCK. Mr. Chairman.

Senator DOWNEY. I beg your pardon.

Senator MURDOCK. May I just interpose this? As I understand it, Mr. Watson, so we will get the picture completely clear, you take the position that if there were 750,000 acre-feet returned to the river above the point of delivery to Mexico, but below a point of redirection in the United States, that that water becomes surplus?

Mr. WATSON. That belongs to the river; yes.

Senator DOWNEY. And under those conditions, then, if 750,000 acre-feet was return flow and utilized by Mexico and Mexico was still entitled to 750,000 acre-feet, you would think then that the upper and lower basin States would have to prorate to make up that deficiency?

Mr. WATSON. Yes; equally.

Senator DOWNEY. Equally?

Mr. WATSON. Yes, sir.

Senator DOWNEY. Now, Mr. Watson, I want to ask you this. Assume that your opinion on that is wrong and the entire burden of the 750,000 acre-feet would fall on the upper basin States under those conditions, would you still favor this treaty?

Mr. WATSON. I think that that is rather an extreme assumption. I am in favor of the treaty, and the upper basin will furnish its share of the obligation, whatever that may be.

Senator MURDOCK. But just suppose, Mr. Watson, that your assumption that this return of 750,000 acre-feet under the compact is not surplus water but that the lower basin in discharging its part of the burden to Mexico is entitled to claim full credit for that; under that assumption then the remaining 750,000 acre-feet to complete the full Mexican allotment must come, must it not, from the upper basin?

Mr. WATSON. Oh, you have given the lower basin credit for that?

Senator MURDOCK. Let me state it again, just as Senator Downey stated it. 16,000,000 acre-feet has been diverted in the two basins, there is no surplus water in the river, at all; 750,000 acre-feet is returned to the river in the lower basin after they have diverted and used it; and we make the further assumption that that 750,000 acre-feet is not surplus, but it is allowed to flow to Mexico to make up the allotment to Mexico of 1,500,000 acre-feet, leaving an additional 750,000 acre-feet to complete the allotment to Mexico. Now, if the lower basin States are given full credit for the 750,000 acre-feet of return flow which goes to Mexico, then the upper basin would have to furnish or supply, would it not, the other 750,000?

Mr. WATSON. I do not agree with that assumption.

Senator MURDOCK. Well, I know.

Mr. WATSON. But if that were the case then that would be the case.

Senator MURDOCK. I know. I do not want to argue with you. I just want you to make the assumption, if you are willing to, and then your answer is of course that the upper basin would have to supply that additional 750,000 acre-feet?

Mr. WATSON. With those assumptions.

Senator MURDOCK. Now, assuming that, Mr. Watson, to be the case; assuming that construction of the compact to be correct; would you still favor the ratification by the Senate of this treaty?

Mr. WATSON. Yes; I would; I would.

Senator MURDOCK. Thank you.

The CHAIRMAN. Let me ask you a question.

Mr. WATSON. May I make one explanation, Senator?

The CHAIRMAN. Well, let me ask you the question, and explain all of it you want. These assumptions are based upon the lower basin's using all the water they want to use and then returning the 750,000 acre-feet to the river; they are free to use it if they want to, but they do not use it and they put it back in the river. Your contention is—and I agree with you—that that water when it is put back into the river belongs to the river?

Mr. WATSON. It belongs to the river.

The CHAIRMAN. It does not belong to anybody?

Mr. WATSON. It belongs to the river.

Senator MURDOCK. That is surplus, and as surplus water it can be used by the United States to fill the obligations?

The CHAIRMAN. The obligation to Mexico.

Senator MURDOCK. And then as I understand it, that being so, 750,000 acre-feet being under the compact surplus waters belonging to the United States for the purpose of supplying Mexico; then the remaining 750,000 acre-feet as I understand the Chairman must be made up equally between the two basins.

The CHAIRMAN. That is my construction. I am no expert on water.

Senator McFARLAND. Consumptive use is consumptive use, is it not?

Mr. WATSON. Yes.

Senator McFARLAND. And if you people in Utah are entitled to your consumptive use, the people below are entitled to the same thing. If you are entitled to credit for the water that returns back into the river to supply the people below you, isn't Arizona entitled to the same credit?

Mr. WATSON. May I explain it this way, Senator?

Senator McFARLAND. Well, can you get around that?

Mr. WATSON. I think that the treaty provides that the lower basin would call upon the upper basin for delivery of water excepting for—

Senator DOWNEY. You mean the compact?

Mr. WATSON. The compact; yes—excepting for reasonable agricultural use; and I think if the water is finally returned to the river by Arizona, say, in the Gila, and it is not up to them to complain about what this water shall be if they cannot use it any more, and the upper basin certainly is not liable.

Senator McFARLAND. Well, you cannot use yours any more, can you? Should you be allowed to complain under the same provision? You are not using your water any longer when it goes on down, and

yet you get credit for it. If the words "consumptive use" mean anything to Utah they mean the same thing to Arizona, do they not?

Mr. WATSON. But the lower basin under the compact cannot call upon water that it cannot reasonably apply to domestic and agricultural, beneficial use, and if that water is left in the stream and finally gets into the main stream, it is surplus and belongs to the river.

Senator McFARLAND. Well, that water belongs to the river?

Mr. WATSON. Yes.

Senator McFARLAND. Any water that is in the river belongs to it.

Mr. WATSON. May I add one thing? We are dealing here with the sovereign State of Mexico. Mexico cannot get into our squabbles and internal differences.

The United States Government says to the state of Mexico or the sovereignty of Mexico, "There is so much water in the stream. Call it surplus or what you will. That water is going to be charged against the 1,500,000 acre-feet. We will settle the rest of it later. We will deliver to you 1,500,000 acre-feet."

Whether or not Arizona should be credited with that water is none of Mexico's concern. It is my opinion that it should not be. It flows through the stream and is surplus.

Senator McFARLAND. We do not want you people to labor under any misapprehension that Arizona is going to bear the whole burden of supplying water to Mexico. Arizona has the same right to credit for return flow as the other States.

Mr. WATSON. Senator, we are in favor of the treaty regardless of our differences with Arizona.

Senator DOWNEY. Mr. Chairman, I should like to clarify some points I am trying to make.

The CHAIRMAN. Senator Downey.

Senator DOWNEY. Assume that of the 8,500,000 acre-feet of water that went down to the lower basin States and was all spread out in irrigation, 750,000 acre-feet of that then percolated back to the river. Suppose it was a proper and prudent method of irrigation; that is, that there was not any waste of water. And I may say to you that if there is only 750,000 acre-feet of water coming back, that would be a very prudent use of water.

Mr. WATSON. Yes; it would.

Senator DOWNEY. As a matter of fact, State Department witnesses have indicated that there might be necessarily 1,200,000 or 1,300,000 acre-feet of water coming back. I am assuming only 750,000 acre-feet.

Mr. WATSON. Yes.

Senator DOWNEY. Do you not understand that it is very plain in that case that the beneficial use under those conditions by the lower basin would be 8,500,000 acre-feet less the 750,000 acre-feet of return flow? Is not that true?

Mr. WATSON. Ordinarily that would be true, but in this case the water has been put to consumptive use, as far as it was possible to put it to consumptive use.

Senator McFARLAND. So has it been in Utah.

Mr. WATSON. If the water cannot be further put to consumptive use, then those who have the water to put to use cannot be heard to complain if the water goes back into the river.

Senator MURDOCK. Would this explain your position, and do you make this distinction: That so far as the return flow from Utah, Colorado, Wyoming, and New Mexico is concerned—the return flow from above—your theory is that some water can still be beneficially consumed and used in the lower basin?

Mr. WATSON. It can.

Senator MURDOCK. But that the return flow from Arizona and lower points where it can be rediverted for use in the United States distinguishes that water from return flow in the upper basin?

Mr. WATSON. I think that is the point.

The CHAIRMAN. Let me ask a question, if I may do so without interrupting you Senators.

If any area is granted a certain amount of water—8,000,000 acre-feet, we will say—and it uses all of it that it can use beneficially, as you have indicated, and then when it is finished using it there is a lot of water that flows back into the river, they have done all they can with it; they have used every gallon that they can. But have they any right to assume control of that water after it gets back into the river? Does it not belong to the United States?

Mr. WATSON. I think it does.

The CHAIRMAN. Just as a fellow who has a palatial bathroom uses what water he needs for bathing and then releases the plug and lets the water out into the sewer has had the beneficial use of that water?

Mr. WATSON. Yes.

Senator DOWNEY. At least, we are in agreement upon one thing, and that is this: The compact says or declares that the lower basin States have the right to the consumptive use of 8,500,000 acre-feet; is that right?

Mr. WATSON. Yes.

Senator DOWNEY. That is what the compact says. Just so that there may be no misunderstanding, I want to draw your attention to the definition of "consumptive use" in the treaty. It is, of course, the universal definition everywhere in the irrigation West. [Reading:]

"Consumptive use" means the use of water by evaporation, plant transpiration, or other manner whereby the water is consumed and does not return to its source of supply. In general, it is measured by the amount of water diverted less the part thereof which returns to the stream.

Of course, that is bromidic to you as an engineer, Mr. Watson.

I now want to read to you something else in connection with this same thought, and I would ask you to take the treaty and turn to page 14, so that you may follow it better. It is the last paragraph in article 10:

In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet—

And I there want to emphasize to the witness and to the committee that it does not say "acre-feet of water" or "acre-feet of consumptive use"—

a year, the water allotted to Mexico under subparagraph (a) of this article will be reduced in the same proportion as consumptive uses—

And I emphasize that to you, Mr. Watson—

in the United States are reduced.

First, I want to ask you, where it says "in the same proportion as consumptive uses," would you think that that expression, "consumptive uses," meant present consumptive uses or future consumptive uses? How do you interpret the treaty? Just turn to that, look at it, and reflect upon it a moment and tell me which you believe, in wanting to ratify this treaty.

Mr. WATSON. That would mean the consumptive uses as of the time that the extraordinary drought occurred.

Senator DOWNEY. Do you see in there any language that entitles you to that interpretation?

Mr. WATSON. Well, the general meaning of the paragraph would seem to be that, because we are speaking now of a year of extraordinary drought.

Senator DOWNEY. That is right.

Mr. WATSON. The persons who are going to allocate this water or divide it according to the pro rata use will consider the consumptive use as of that time, whenever it may be, I should think.

Senator DOWNEY. Certainly. They will consider the reduction at the time of extraordinary drought; and in considering that reduction, they will have reduced Mexico's proportion according to the consumptive uses in the United States as of that time or as of this time?

Mr. WATSON. Do you mean the present time?

Senator DOWNEY. Yes.

The CHAIRMAN. He has answered that question.

Senator DOWNEY. Mr. Chairman, if you will bear with me, I have studied this treaty very carefully, and I am sure there is only one possible fair interpretation. I just want to know; I am not endeavoring to develop any point arbitrarily.

The CHAIRMAN. You are on the list to speak later on and give your views.

Senator DOWNEY. I should like to have these gentlemen from the upper basin States understand some of our ideas.

Let me put it to you this way, Mr. Watson: This use of Mexico's that is being reduced, whether it is consumptive use of 1,500,000 acre-feet or the over-all use, is a use existing today, is it not? Is it not a use existing today?

Mr. WATSON. Consumptive use in Mexico?

Senator DOWNEY. Yes.

Mr. WATSON. Whatever use that is. Whatever use Mexico is putting water to today is whatever use that it is putting water to.

Senator DOWNEY. But is not one thing that has been very strongly contended that she is using 1,500,000 acre-feet right there today?

Mr. WATSON. That Mexico is?

Senator DOWNEY. Yes.

Mr. WATSON. Losing it?

Senator DOWNEY. Using.

Mr. WATSON. Oh, yes; using it.

Senator DOWNEY. Do you not think that a court interpreting this, when there is neither the word "present" nor "future," and it is left ambiguous, would say that the fair thing to do would be to balance the existing uses in Mexico against the existing uses now, when the treaty is passed, in both countries?

Mr. WATSON. I would think it would be a practical situation in which the court or the arbitrators would consider the condition as of the time their judgment had to be made.

Senator DOWNEY. All right. Then, taking that interpretation of "consumptive use," do you think it would refer in the United States, looking ahead 20, 30, 40, or 50 years, to all of them?

Mr. WATSON. It would be consumptive uses as of that time, whatever they might be.

Senator DOWNEY. But suppose you had a hundred different consumptive uses in the metropolitan irrigation district of Salt Lake, in Los Angeles, on the Gila, and up on the Gurnison and Green and the Colorado. Suppose some of them were reduced and some were not. How would you work that out under your theory?

Mr. WATSON. That will be a very difficult thing, but it will have to be met. It will be a condition, not a theory, as I have said; so the people at that time will have to work it out.

Senator DOWNEY. Mr. Watson, will you not acknowledge to this committee that it would be a totally impossible thing 50 years from now to try to reduce the use of this 1,500,000 acre-feet to Mexico according to the consumptive uses then existing, half of which might be reduced and half not; some of which might be reduced 10 percent, some 50 percent, and some 100 percent? How would you work that out?

Mr. WATSON. I might say that it would be a difficult problem; but life itself is difficult.

Senator DOWNEY. I see. That satisfies you on this problem?

Mr. WATSON. Yes.

Senator DOWNEY. If we took the viewpoint that this means present consumptive uses in the United States to be balanced against present consumptive uses in Mexico, then it becomes simple to see—does it not?—because, at least generally we know as of when this treaty will be adopted what those consumptive uses are, do we not?

Mr. WATSON. If you make that assumption; but we do not make that assumption.

Senator DOWNEY. All right. Now, let us talk about something that you and I can perhaps agree upon. You are an engineer—an irrigation engineer—with, I suppose, a lot of experience. Now, this last line reads—

the guaranteed quantity of 1,500,000 acre-feet a year, the water allotted to Mexico under subparagraph (a) of this article will be reduced in the same proportion as consumptive uses in the United States are reduced.

You think that 1,500,000 acre-feet is the over-all amount to be applied upon the land in these respective uses? Do you understand me? You do not think that is consumptive use?

Mr. WATSON. I think that the men at that time will consider the problem, and Mexico is guaranteed 1,500,000 acre-feet of water. I think that they will consider that the upper basin is putting to use so much water, that the stream has been depleted by so much due to drought, and that those two factors will be taken into consideration and balanced against each other and cut down accordingly.

Senator DOWNEY. Mr. Watson, I do not think you get the point. If the chairman will permit me, I will explain it preliminarily.

You have two sides of an equation here, involving two totally different kinds of factors on each side. One is the over-all water, 1,500,000 acre-feet; the other is consumptive use.

Mr. WATSON. Yes.

Senator DOWNEY. According to you, we have got to reduce the over-all in proportion to the reduction of consumptive use. To make it simple for us, and for the understanding of all of us, let us assume that in central Arizona they were granted a consumptive use for some projects of a million acre-feet but that in order to get that consumptive use out of the land and water they had to have an over-all application of 1,500,000 acre-feet. Now, in that case the over-all application in Arizona would be 1,500,000 acre-feet, and the consumptive use would be 1,000,000 acre-feet.

According to your understanding of this language, the right of Mexico is to 1,500,000 acre-feet of over-all use. Now, suppose the Commissioners were faced with the problem, by reason of extraordinary drought, of reducing the consumptive use in Mexico against the over-all use in Mexico. How, as an engineer, could you possibly work that out?

Mr. WATSON. I would say we would not be concerned with the consumptive use in Mexico; that is, we are supposed to deliver them 1,500,000 acre-feet, and we cannot do it. That is due to the fact that there is drought in the upper basin. The drought will be in the upper basin, gentlemen. That is where we will suffer—in the upper basin—because we furnish a large part of the water.

Therefore, they would say, regardless of whether or not Mexico put her water to beneficial use or consumptive use: "Mexico, we cannot furnish so much, according to the measure of water, so you will have to get along with that, because we have to get along with what nature has given us."

Senator DOWNEY. Mr. Watson, I do not think you quite see the difficulty involved in this situation. I should like to ask you an additional question. Suppose under those conditions the Bureau of Reclamation could deliver to Arizona 1,000,000 acre-feet because of the drought, instead of 1,500,000 acre-feet of over-all water, but that they did deliver an amount equal to her consumptive use; now thereby the drought would have cut Arizona down 500,000 acre-feet, would it not?

Mr. WATSON. Yes.

Senator DOWNEY. Now, would you have cut Mexico's 1,500,000 acre-feet down at the same time?

The CHAIRMAN. Would not that depend on all the United States being reduced by the drought in proportion?

Mr. WATSON. It would depend on the entire area.

Senator GREEN. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator GREEN. Is not your theory that, as far as Mexico is concerned, it is simply a question of the division of water between Mexico and the United States?

Mr. WATSON. Yes, sir.

Senator GREEN. How is it divided among the different elements or parts of the United States is none of Mexico's affair?

Mr. WATSON. That is right.

Senator GREEN. If there is inequitable distribution, it is for the United States to correct it, not Mexico?

Mr. WATSON. What you say is true. I agree with that.

Mr. WATSON. I wish to say that Senator Murdock in asking questions of me regarding the State law did not interpret the State law

very accurately. I am willing to explain it or eliminate it. But I wish to say that I can privately put the Senator straight on certain parts of our local law.

Senator MURDOCK. It might be important to the committee to get it straight right now.

Senator DOWNEY. May I continue with this, though, before he goes back?

Senator MURDOCK. Surely.

Senator DOWNEY. This question, to me, goes to some very vital phases; otherwise I would not intrude upon the committee.

Now, Mr. Watson, I wish you would open up your mind to me. We are all trying to work out a safe and secure treaty, and language is most important. We have this expression: "to deliver the guaranteed quantity of 1,500,000 acre-feet a year."

It does not say "over-all water" or "consumptive quantity." Then it adds—

the water allotted to Mexico under subparagraph (a) of this article will be reduced in the same proportion as consumptive uses in the United States are reduced.

If a judge or an international tribunal interpreting this treaty should say that the only way that you could secure such an apportionment or such a reduction would be by construing this treaty to mean consumptive use of 1,500,000 acre-feet rather than over-all water, would you not think we were in a very dangerous position?

Mr. WATSON. I would think the judge would be in error, because I think we are interested only in delivering so much water to Mexico.

Senator DOWNEY. Mr. Watson, you evidently do not understand the point. Here in the reduction on one side of your equation you set up an over-all amount of 1,500,000 acre-feet, and under the other 1,500,000 acre-feet for consumptive uses. The two things are totally different kinds of factors. But I will pass on to another point.

Will you turn again to the treaty, please? Do I understand you to have expressed the opinion that Mexico has no right to use any of this water excepting 1,500,000 acre-feet?

Mr. WATSON. One million seven hundred thousand.

Senator DOWNEY. If your view is wrong on that, would that affect your viewpoint?

Mr. WATSON. No; I would simply be mistaken—and I can be mistaken.

Senator DOWNEY. You are still for the treaty?

Mr. WATSON. Yes.

Senator DOWNEY. Let us turn back to the treaty again:

Of the waters of the Colorado River * * * there are allotted to Mexico:

(a) A guaranteed annual quantity of 1,500,000 acre-feet * * *.

(b) Any other quantities arriving at the Mexican points of diversion * * *.

How do you interpret that language, in view of your thought in this matter? Will you read it?

Mr. WATSON. That is article (b)?

Senator DOWNEY. Yes; the first phrase there, up to the comma.

Mr. WATSON (reading):

Any other quantities arriving at the Mexican points of diversion * * *.

Senator DOWNEY. Yes. How do you interpret that language?

Mr. WATSON. I assume that if there is any other water arriving at that point—

Any other quantities arriving at the Mexican points of diversion, with the understanding that in any year in which, as determined by the United States section, there exists a surplus of waters of the Colorado River in excess of the amount necessary to supply users in the United States and the guaranteed quantity of 1,500,000 acre-feet annually to Mexico, the United States undertakes to deliver to Mexico, in the manner set out in article 15 of this treaty, additional waters of the Colorado River system to provide a total quantity not to exceed 1,700,000 acre-feet a year.

I understand that if there is a surplus of water that the United States can afford to use, it will increase the allotted amount to Mexico by 200,000 acre-feet.

Senator DOWNEY. By how much?

Mr. WATSON. Two hundred thousand acre-feet.

The CHAIRMAN. Senator Downey has continued to ask you whether or not, if this treaty is adopted, Mexico could use any more than 1,500,000 acre-feet. As a matter of fact, she would not have any right to demand any more water than that from the United States; but if we did not use it and it should continue to flow down into Mexico, as it is now flowing, could she not use any water that came down there, although she would have no right to demand any more than 1,500,000 acre-feet? And when the time came that she could not get any more than 1,500,000 acre-feet, would she not have to retire certain lands or any other uses she had made of that water?

Mr. WATSON. That is the way I understand that treaty.

Senator DOWNEY. Thank you, Mr. Chairman.

The question of the chairman has made plain to you, Mr. Watson; that Mexico is entitled to use all the water coming down there, even though it is beyond the 1,500,000 acre-feet?

Mr. WATSON. Yes. Mexico uses that water at her peril. If this treaty is passed, the limitation is based upon her rights. But she may use as much water as goes to waste at her peril.

Senator DOWNEY. But she does not get a right to any water at all by use?

Mr. WATSON. Not by use; no.

Senator DOWNEY. You do not think that article 10 gives to Mexico 1,500,000 acre-feet of guaranteed right and then 1,500,000 acre-feet by use for an expanding right?

Mr. WATSON. I do not.

Senator DOWNEY. Would you be for the treaty if you thought that were true?

Mr. WATSON. I do not think that is true. I am for the treaty, but I think that is not a proper interpretation.

Senator DOWNEY. Let me ask you this question: if you thought that Mexico was given a guaranteed right to 1,500,000 acre-feet and a secondary right to be acquired only by use in an expanding right of another 500,000 acre-feet, would you still be for the treaty?

Mr. WATSON. I think that that is an improper assumption; but I am for this treaty.

Senator DOWNEY. I see. You did not read this next sentence. Let me read it to you:

Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system for any purpose whatsoever, in excess of 1,500,000 acre-feet annually.

Does not that give her the right to acquire up to 1,500,000 acre-feet by use?

Mr. WATSON. No; Mexico has no right by use; her right is guaranteed by the United States, and whether she uses it or not, she can get it.

Senator DOWNEY. Let me read this sentence to you again:

Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system—

now, there is not a period there—

in excess of 1,500,000 acre-feet annually.

What do you think that language means?

Mr. WATSON. Why, it simply means—I think it simply means—that 1,500,000 acre-feet are guaranteed to Mexico. If Mexico uses it, well and good; if she does not use it, well and good. But she has agreed to that under the treaty, and it is none of our concern what she does with it.

Senator DOWNEY. But this says she may not acquire in excess of that being used.

The CHAIRMAN. I understand that your viewpoint is that she has a right to demand 1,500,000 acre-feet. Beyond that she cannot acquire any right simply because in the past she used more than that amount?

Mr. WATSON. That is right.

The CHAIRMAN. The treaty is the answer to the question, is it not?

Mr. WATSON. I understand it that way.

Senator DOWNEY. Let me ask you this, then. Where this says:

for any purpose whatsoever, in excess of 1,500,000 acre-feet a year—

you think that that right for that 1,500,000 acre-feet is the same 1,500,000 acre-feet referred to as the guaranteed right in subparagraph (a)?

Mr. WATSON. Yes.

Senator DOWNEY. That is what you think?

Mr. WATSON. Yes.

Senator DOWNEY. Let me ask you if you noticed this, Mr. Watson. I have marked it out for you very carefully. In paragraph (a) it refers to this 1,500,000 acre-feet as "A guaranteed annual quantity." You see that, do you not?

Mr. WATSON. Yes.

Senator DOWNEY. Then, later on, it speaks of another guaranteed quantity of 1,500,000 acre-feet. Do you see that?

Mr. WATSON. Yes.

Senator DOWNEY. Down in the last paragraph it speaks of the guaranteed quantity of 1,500,000 acre-feet, does it not?

Mr. WATSON. Yes.

Senator DOWNEY. You will notice that up on the lines we are talking about the expression "guaranteed annual quantities" is not put in.

Mr. WATSON. I understand this treaty to be that if she gets 1,500,000 acre-feet of water, she has to be satisfied; and if she puts more to use than that, she puts to use at her own peril.

Senator TUNNELL. You understand that use will not give her a right to any excess over the 1,500,000 acre-feet?

Mr. WATSON. That is correct.

Senator DOWNEY. Let me read to you just three or four words again—

for any purpose whatsoever, in excess of 1,500,000 acre-feet.

Now, you will notice that it does not say "the 1,500,000"; it does not say "the guaranteed annual quantity of 1,500,000"; it just says "of 1,500,000." It likewise uses the word "use" in connection with it.

That does not affect your judgement about all these things at all?

Mr. WATSON. Not a bit.

Senator DOWNEY. You are not worried about it?

Mr. WATSON. Not a bit.

Senator DOWNEY. Now, Mr. Watson, is it your understanding that prior to the construction of Boulder Dam Mexico was using only 750,000 acre-feet of water from the Colorado River as a maximum?

Mr. WATSON. I am not sure as to the exact amount; it was somewhere around that amount. I am not certain as to the exact amount.

Senator DOWNEY. Is it also your understanding that Mexico had no other lands there in Lower California that she could have irrigated at that time because of floods?

Mr. WATSON. I understand that it was difficult for Mexico to irrigate with an uncontrolled river.

Senator DOWNEY. Do you also understand that the low flow of the river down at the boundary had been totally exhausted in many years by prior appropriators and users?

Mr. WATSON. I believe that most of the water that could be used from the regular flow of the river was utilized. I lived in the Imperial Valley at that time, and I know something about it.

Senator DOWNEY. You know of first-hand knowledge, and I am glad to have your testimony on that basis.

Let me understand this, Mr. Watson. Is it your understanding, then, that it is only because of the building of Boulder Dam that Mexico is able to use any additional water above 750,000 acre-feet?

Mr. WATSON. I understand that Boulder Dam controls the river; therefore, any user below has many opportunities to use more water than he had before.

Senator DOWNEY. Consequently the reason we could give 1,500,000 acre-feet to Mexico is the construction of Boulder Dam?

Mr. WATSON. It is because we control what we created, yes; whatever it may be, whether it is Boulder Dam or Davis Dam.

Senator DOWNEY. Do you not think that that is giving a beneficial use to Mexico in the stored waters of Boulder Dam?

Mr. WATSON. No; I do not think so.

Senator DOWNEY. You do not think it is?

Mr. WATSON. I think that Boulder Dam when it fills, with its 32,000,000 acre-feet of water in Lake Mead, will permit the flow of the river to flow through. Those waters remain stored, but the river itself continues to flow; and other waters flow down aside from the storage water in Boulder Dam.

Senator DOWNEY. So you do not think that in order to carry out this treaty, as far as Mexico is concerned, it is necessary to give her a beneficial use in the waters of Boulder Dam?

Mr. WATSON. I think that we can supply waters from the control of the river, whether it is from Boulder Dam or elsewhere. I think it is

an over-all picture, in which we agree to do something for a sovereign state if she will do something for us—if she will limit her use.

Senator DOWNEY. Mr. Watson, are you familiar with the fact that Senator Pittman, I believe—

The CHAIRMAN. We have had Senator Pittman recorded here in full five or six times. If the Senator wants to go into that, all right. I do not see any need to go into it again.

Senator DOWNEY. Are you familiar with the fact, Mr. Watson, that Senator Pittman did serve notice upon Mexico that all she was using—all she could ever use—out of the natural flow of the stream was 750,000 acre-feet and that the United States Government would not consent to her irrigating anything beyond that because of the construction of Boulder Dam?

Mr. WATSON. I do not know that the United States Government had anything to do with it. I understand that Senator Pittman made a speech on the floor of the Senate, but whether or not that was notice to Mexico, or whether Mexico had been bound by that, I am not prepared to say. That is a legal question, and I know nothing about it.

Senator DOWNEY. You would certainly consider it as an interpretation of the Boulder Act, on which he was speaking?

Mr. WATSON. I do not know how well Senator Pittman was informed. He has been quoted a great deal. But I would rather go to the compact, because that is what governs.

Senator DOWNEY. I want to ask you this: If in giving this extra water to Mexico—let us say 1,500,000 acre-feet, or whatever it may be—it placed in peril or perhaps wiped out the rights of the city of San Diego and the rights of the Metropolitan irrigation district of Los Angeles, would you still favor this treaty?

Mr. WATSON. I think the Colorado River Compact determines the rights of San Diego and any other metropolitan areas. I do not think that those rights, which were initiated at the time of the signing of the compact, should be considered in framing this treaty or making this treaty. I think those rights were already established at that time and that the users cannot be heard to complain if this treaty is made.

Senator DOWNEY. No further questions.

Senator McFARLAND. There is no question in your mind but that we are giving Mexico a regulated flow?

Mr. WATSON. We regulate the river and guarantee them so much water.

Senator McFARLAND. To that extent they are getting the use of stored water?

Mr. WATSON. Whether or not it is stored water, I am not prepared to say; but we are regulating the water, and we by that regulation guarantee them a use.

Senator McFARLAND. I was asking you as an engineer whether your idea was that there is sufficient water going down that river, just natural flow, to give them the amount of water as specified in this treaty.

Mr. WATSON. I think that if a severe drought should come and we had to rely upon our storage capacities to deliver to Mexico under this treaty, and that was all the water we had, I think we would have to deliver that water.

Senator MCFARLAND. So to that extent they do get the benefit of stored water?

Mr. WATSON. There could be conditions arise.

Senator MCFARLAND. Well, there might be conditions arise somewhere whereby they would get the benefit of stored water; might there not? They might get some amount of water and use it at different times and even more extravagantly than if it was not regulated. I am not saying that that should be argued one way or the other; but the fact remains that they do get the benefit of regulated flow.

That is all.

Senator MILLIKIN. Mr. Watson, would this be a correct summary of your position, so far as the claim is made that we are giving something to Mexico: That in the event of a settlement between the United States and Mexico, there would be a settlement based upon equitable considerations; that the fact that we are limiting permanently—I assume that the treaty accomplishes that—the claim; or what might be a claim, against us by Mexico in the future against expanding use in Mexico, which is progressing there, is the offsetting consideration for the benefits she gets from Boulder Dam and the other regulating facilities in the United States?

Mr. WATSON. Yes, sir.

Senator MILLIKIN. Mr. Chairman, there has been considerable discussion about who gets credited and who gets debited with return flow inside the United States. There is another way of looking at that. I do not wish to fix a theory on myself, but I think my suggestion will demonstrate the fallacy of the reasoning.

In order to give the lower basin States 7,500,000 acre-feet of consumptive use, and maybe another million, we have to deliver them more than that amount of water from the upper basin States; do we not? Because obviously there is a return flow; there is some water which does not go into consumptive use?

Mr. WATSON. We are not compelled to do it; we agree by the compact to permit 75,000,000 acre-feet of water to pass Lee Ferry in a 10-year period. Regardless of consumptive use, when we have done that we have fulfilled our duty.

Senator MILLIKIN. Article 3, section (a), of the compact says:

There is hereby apportioned from the Colorado River system in perpetuity to the upper basin and to the lower basin, respectively, the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum.

Will you agree with me, going just that far, that to provide 7,500,000 acre-feet of consumptive use you have to deliver an additional amount of water to the lower basin?

Mr. WATSON. As I understand the compact, Senator, we fulfill our obligation to the lower basin when we permit an average of 75,000,000 acre-feet of water to pass Lee Ferry in a 10-year period.

Senator MILLIKIN. I am not now speaking of that obligation. The compact opens up with the charge on the upper basin States to deliver enough water to provide 7,500,000 acre-feet of consumptive use in the lower basin.

Return flow, evaporation, and other factors are the measures of the difference between the over-all amount put on the land and the consumptive use; is not that correct? So from that viewpoint—and

I go just that far with it—that return flow which gets back into the Colorado River in the lower basin States results from the excess of water that we would deliver to the lower basin States. Therefore, if there is any credit, it comes to the upper basin States.

In other words, Mr. Chairman, if you are going to get into credits and debits, you have to do it on both sides of the fence; you cannot take an isolated credit and consider it without relation to other matters.

Senator MURDOCK. Mr. Watson, would this be a fair summary of your position on this treaty: After all the assumptions that have been made this morning and all the questions that have been asked by us and answered by yourself, you are for this treaty, period?

Mr. WATSON. Yes, sir.

The CHAIRMAN. Thank you, Mr. Watson. Who is the next witness?

STATEMENT OF JAMES H. HOWARD, GENERAL COUNSEL, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Mr. HOWARD. May I introduce myself, Mr. Chairman, as James H. Howard, general counsel for the metropolitan water district of southern California?

The argument I am going to make is predicated upon legal considerations.

The CHAIRMAN. You may be seated, Mr. Howard, if you wish.

Mr. HOWARD. Thank you, Mr. Chairman, but I am more at home on my feet in discussing such a matter. In fact, before this august tribunal of jurists I feel more as though I were before a court than before a senatorial committee.

The proposition that I desire to discuss is a clean-cut issue of law.

The CHAIRMAN. I do not desire to limit you at all, but I should like to have some idea of how long you will take.

Mr. HOWARD. My primary statement can be completed in about 45 minutes. Frankly, I had hoped to incite enough interest on the part of the Senators present so that they would be induced to come back and hear the conclusion this afternoon. I know that there is a great deal of other business here in the Senate and that you are all extremely busy men. But we would like to give our statements when we have an opportunity to have an audience.

The CHAIRMAN. Of course, we appreciate that; and the chairman would be glad if every member of the committee were here every day. But the chairman has no means to bring them here.

Mr. HOWARD. I am here in defense of a water-delivery contract made by the United States of America, through the Secretary of the Interior, with the metropolitan water district of southern California, which I shall hereafter refer to as the district.

The CHAIRMAN. You would prefer not to be interrupted as you make your general statement?

Mr. HOWARD. Senator, I have in my case here a very carefully prepared script. But I usually do that. I write my script and then proceed to ignore it, just because interruptions during the course of a discussion very frequently are enlightening. I have no objection whatever to interruptions at any time.

The **CHAIRMAN**. I hope that Senators will restrain themselves until you finish your general statement. I will try to restrain myself, although it is rather hard to do.

Mr. HOWARD. I am here defending a specific water-delivery contract. I should like to say, however, that that contract is typical of several other water-delivery contracts made for the benefit of water users in California and that what I say is true of the other contracts. So while I am talking primarily about one contract, I am really talking about all the California water-delivery contracts.

At the request of the Governor, I also want to discuss a compact, which is merely a more dignified word for contract, between the United States of America and the State of California, as evidenced by the California Water Limitation Act, on the one side, and the Boulder Canyon Project Act, on the other.

The water-delivery contracts of which I speak are dependent, or the interpretation of them is dependent, upon the interpretation of that statutory compact, and of the Colorado River compact in relation to that compact.

The question is this—and I think I can state it so that Senator Milikin from Colorado, who has asked most of the questions on this point, will agree that it is the issue: Are the California water-delivery contracts by their own terms, by agreement, subject to a diminution in favor of Mexico at any time that the United States sees fit to extend benefits of Boulder storage to Mexico? I think that is the issue, and it is the issue I intend to meet head-on without any side tracks whatever.

I realize that the Senate and this committee cannot consider questions of this character with the same amount of time available as is available to courts. I am going to make my argument in what might be called outline form, with a very minimum of citation of authority, and practically no quotations. It is my conviction that if this committee and if the Senate of the United States can be convinced, as I believe I can convince them, that the execution or ratification of this treaty would constitute a violation of an outstanding compact with the State of California and of water-delivery contracts made thereunder, no such treaty would be ratified. If I am wrong in that premise, my argument loses its point. I am merely assuming that the Senate will not deliberately violate outstanding commitments of the United States.

We heard Senator Johnson toss several questions to witnesses that seemed to puzzle them a little bit. He asked them in effect: "Do you intend to destroy Boulder Dam?" Now, of course, we know what he meant. The Senator did not mean that they were going to toss a hand grenade, or something of that sort, into Boulder Dam and blow it up. We all know that back of every project of this magnitude there is a legal structure, a legal foundation. Every time you build a foundation, you have a legal foundation—you have titles and contracts. You cannot take pictures and see them, but they are there. A foundation for an enterprise of that sort must be just as sound legally as it is physically.

What the Senator meant, and what is going to happen here if this treaty is ratified, is that a grenade will be tossed into a very intricate structure—interwoven compacts, contracts, and legal relationships—

which is going to upset the whole thing and render the conflicts among our own States even more severe than they will be otherwise.

For that reason I think we should approach this problem with the utmost seriousness. I feel the burden of responsibility very heavily myself, because if you ratify this treaty you are removing from the jurisdiction of the United States a part of the subject matter of controversy. Your decision here settles the question as to that part of the subject matter. For that reason you must approach the problem slowly, giving an opportunity for real thought.

The idea that there is a compact between the United States of America and the State of California may come as a rather startling thought to some of you. There are two compacts on the river: The Colorado River compact and the statutory compact. I want to indicate to you how that compact arose.

During the period following the signing of the Santa Fe compact—we call it the Santa Fe compact or the Colorado River compact; it is the same thing—at Santa Fe, N. Mex., in 1922, it became apparent that the Legislature of the State of Arizona was not satisfied with the compact and would not ratify it. The Project Act as it had been introduced in bill form was made contingent in its operation upon the execution of the seven State compact and the ratification of the seven State compact.

As it became apparent during the progress of the bill through the House and the Senate that Arizona would not ratify the compact, an alternative provision was included. The first provision was left in, but an alternative was included. That alternative provided in effect that the Project Act should not take effect until or unless the Colorado River compact be ratified by six States of the basin, including California—that was specifically mentioned in the provision; I am referring now to section 4 (a) of the Project Act—and further, until and unless the State of California through its legislature should undertake as an express covenant, and in consideration of the passage of the Project Act, to limit itself in its use of the waters of the Colorado River.

The California Water Limitation Act is not, in essence, a statute. A statute can be repealed or amended, in the wisdom of the legislature, at any time. No legislative body can tie up its successors in the matter of legislation. This document, although it is in statute form, is a covenant. It says that the State of California "covenants and agrees." Those are the words of contract. It says, "in express consideration of the passage of the Project Act." Those are words of contract, not words of statute. It limits the take from the Colorado River to 4,400,000 acre-feet per annum, plus one-half the excess or surplus unapportioned by article 3 (a) of the Colorado River compact.

So that the limitation on California is a limitation to 4,400,000 acre-feet plus one-half of the excess or surplus.

Senator MILLIKIN. I do not like to interrupt you, but may I ask you this question merely for information. Did the California Limitation Act ever come under the scrutiny of your California Supreme Court or any of the Federal courts?

Mr. HOWARD. Not that I am aware of, sir. I think I can say no, because I would be aware of it if it had. It was, I think, mentioned in some of the litigation between Arizona and California but has never been subjected directly to any judicial review.

Senator MILLIKIN. Thank you.

Mr. HOWARD. I may say, before Senator Millikin asks me, that the California Water Limitation Act says that the uses of water under that act shall be subject to the Colorado River compact.

I am trying to put in the favorable as well as the unfavorable provisions before somebody has to prod them out of me.

The State of California cannot just stand off all by itself and make an agreement with itself. An agreement is a bilateral proposition. The United States of America said to California, "You must, in consideration of the passage of the Project Act"—

The CHAIRMAN. What language are you quoting?

Mr. HOWARD. From article 4 (a) of the Boulder Canyon Project Act—that this act shall not take effect until and unless California, in consideration of the passage of the Project Act, shall undertake this rather harsh limitation.

Another thing that must be borne in mind in considering the limitation act. The same language appears in the Project Act as appears in the limitation act. They exactly balance, word for word. That compact was made not for the benefit of the United States alone; it was made for the benefit of the other six States of the Colorado River Basin, naming them, Arizona, Colorado, and so forth, naming each State. It was not made for the benefit of Mexico, but for our sister States.

Senator MURDOCK. May I interrupt you there?

Mr. HOWARD. Certainly.

Senator MURDOCK. Do you take the position that the benefit was not exclusively to the States, but that a part of it went to the United States? Do you take the position that the limitation act could be construed as having been adopted for the benefit of the United States?

Mr. HOWARD. It so states on its face—for the benefit of the United States and for these other States. So I think the answer is obvious from that.

What did the United States undertake to do on its side of the compact?

I might interrupt myself to say at this point that when this matter was first called to my attention it occurred to me to wonder whether a compact between the United States and one of the States could arise out of reciprocal legislation. I thought possibly that in order to make such a document effective it would have to be like the ordinary contract, a single document subscribed by the parties. I undertook some investigation of that subject and found that the answer was clear in the decided cases; and if anyone desires to follow the matter further I will be glad to furnish those cases for the record, or individually.

The holding is that a compact—they use both terms, compact and contract—may arise by reciprocal legislation; that is, an act of the legislature of a State on the one hand, and an act of Congress on the other. The matter has frequently come up with respect to taxation of Federal lands. That particular subject matter was in the case of *Stearns v. Minnesota*, 179 U. S. 223. There there was a reciprocal legislation. I will not bore you with the details of it; but it related to the taxation of lands of the United States. They were turned over to the state for administration.

The same question arose with respect to the Old Cumberland Road. There the United States turned over a highway to several States and,

by reciprocal legislation, it was agreed that vehicles carrying mail or other properties of the United States, and, I think, the armed forces, should not be charged any toll. The agreement was merely evidenced by an act of Congress on the one hand and acts of the State legislatures on the other. It was held in several cases that that arrangement amounted to a compact or contract between the States, and that it was enforceable as contracts are enforceable.

Senator WILEY. There was no written instrument except the legislation?

Mr. HOWARD. Only the reciprocal legislation.

It may be proper to put into the record at that point the citations to these cases, because they are rather interesting:

Searight v. Stokes et al. I will give the Law Edition citation. I think that is the one most of us use. It is 11 Law Edition 537.

Neil, Moore & Company v. State of Ohio (11 Law. Ed. 800).

Achison v. Huddleson (13 Law. Ed. 993).

So that I think it is established, and clearly, that a compact or a contract may arise between the United States and one of the States by reason of legislation of that character. All that remains for us to consider is what the elements of this agreement were, and put yourselves in the position of the State of California. California was being asked to limit a natural appropriative right.

We have heard some talk here about where all the water comes from; and from the climatic or meteorological standpoint, that is very interesting information, but it has nothing whatever to do with water rights in the State of California, Colorado, or any other Western State. It has nothing to do with water rights in riparian States. It does not make any difference where the drops of water fall, if the stream is there, under riparian law the owner of abutting property has certain rights, and in the appropriation States the man who has access to a stream can acquire a right to it. It does not make any difference in the world where the water comes from.

But, looking at the position in which California found herself, she had access to the Colorado River. The Colorado River flowed along the border. True, no water originating in California, except trifling amounts, flowed into the Colorado River. Nevertheless, the State of California had access to the stream, and for that reason she had an opportunity for appropriation.

California, and particularly southern California, was one of the most rapidly developing communities in the United States, through no fault of its own. Possibly its promoters offered a little encouragement, but, however it came about, it was a very rapidly developing section and it was in need of water. It desired that the Boulder Canyon project go forward. California's right of appropriation, in the absence of the Colorado River compact, was virtually unlimited. As between Arizona and California and the States upstream therefrom, first in time would be first in right. The upper basin States very naturally felt that the first-in-time first-in-right doctrine, which had been pretty well established in *Wyoming v. Colorado* shortly before that time, was applicable regardless of State lines. The upper basin States were entitled to protection. That is, without protection they should not permit the lower basin States to install on the Colorado River a vast dam and storage works which would make tremendous

quantities of water available and allow the southern communities, particularly California, to acquire a right. So, before the Boulder project was permitted to progress, they very properly, for their own interests, insisted upon the adoption of the Colorado River compact.

In the absence of Arizona from the Colorado River compact the upper basin States were still fearful, even though California had indicated a willingness to subscribe. So, realizing that California had access to the river and every opportunity in the world to put that water to use, the limitation was imposed. It was a harsh limitation, but one which California must conform to, so long as the contract is conformed to by the other party; that is, the United States.

The United States, on its part, offered certain protection to California. And, Senators, without that protection California would never have subscribed to the limitation act.

That protection consisted primarily of three points. One has been stated here so often that I imagine the words bore you; but, nevertheless, I have to repeat them. One was that the Boulder project was authorized for storage of water for the reclamation of public lands and other beneficial uses exclusively in the United States.

That language requires no reference to legislative history in order to give it meaning.

Senator MILLIKIN. May I interrupt you there?

Mr. HOWARD. Certainly, Senator.

Senator MILLIKIN. Have you got handy that language?

Mr. HOWARD. Which language, Senator?

Senator MILLIKIN. The language to which you have just referred.

Mr. HOWARD. Yes; I have it. What have you before you there, Senator?

Senator MILLIKIN. Go ahead, and I will catch up with you.

Mr. HOWARD. It is section 1 of the Boulder Canyon Project Act. If I may, I will read the lines that I have in mind.

Senator MILLIKIN. Yes.

Mr. HOWARD (reading):

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters thereof for reclamation of public lands and other beneficial uses exclusively within the United States, and for the generation of electrical energy as a means of making the project herein authorized a self-supporting and financially solvent undertaking, the Secretary of the Interior is authorized—

to proceed. Again I produce, Senator Millikin, the words "subject to the Colorado River compact."

The CHAIRMAN. Is that your basis for saying that the United States pledged through a compact with California?

Mr. HOWARD. That is part of it; yes.

The CHAIRMAN. Where is the rest of it?

Mr. HOWARD. Section 5 of the Boulder Canyon Project Act announced that the Secretary of the Interior was authorized to contract for the storage and delivery of water from the Boulder project, and it provided that those contracts should be for permanent service. It was also provided that no right in the stored waters of Boulder should be acquired by a method other than contract with the Secretary of the

Interior. The value of that clause to the State of California may not be immediately apparent, but I want to develop that it is important.

The CHAIRMAN. I am trying to get the point you make that the Federal Government made a treaty with California.

Mr. HOWARD. Yes, sir.

The CHAIRMAN. It was not ratified by the Senate, though, was it?

Mr. HOWARD. Yes; it passed the Senate.

The CHAIRMAN. But it was not ratified as a treaty. You say it was a treaty.

Mr. HOWARD. As I tried to point out, compacts between the State of California and the United States can arise out of reciprocal legislation. It does not require ratification.

The CHAIRMAN. All right.

Senator MCFARLAND. You admit, I assume, that this contract or compact was also for the benefit of the other States?

Mr. HOWARD. It was, yes; by its terms.

Senator MCFARLAND. And that they have a vested right by reason of that contract?

Mr. HOWARD. I think that would come under the ordinary law of third-party beneficiaries. They are not parties to it, but they are beneficiaries of it. If the principals—I am stating rather dogmatically the principle of contract law—if the principals to a contract for the benefit of third parties dissolve the contract, or one of them breaches it, the fact that there are outstanding beneficiaries does not interfere with the ordinary law governing the termination of the contract by rescission or whatever means is available to the parties. The parties can dissolve it voluntarily, or one party can dissolve it for breach of the other.

I am not going to put any citations in the record in support of that position. That is the law of third party contracts.

You will pardon the rather dogmatic way in which I have stated it. I always hesitate to state a proposition of law in that fashion, but in the limited time I have in which to argue the matter I am going to do that in several instances.

So that the United States on its part, by the passage of the Boulder Canyon Project Act, promised the State of California that it would build a dam on the Colorado River.

The CHAIRMAN. Where is the word "promise" in there? You say the United States promised California, because it passed an act. It passed an act for the benefit of the other six States as well as California.

Mr. HOWARD. That is right.

The CHAIRMAN. How do you figure out that the contract was made exclusively with California?

Mr. HOWARD. I did not say that. I say that the United States made a contract with California. I am not excluding anyone. The State of California would not have adopted the limitation act in consideration of the passage of the Project Act in the absence of those provisions. So that the effect of the statutory compact is that the United States undertook and agreed to build the Boulder project storing thirty-odd-million acres-feet of water. Without that agreement, without the passage of the Project Act, the State of California would not have accepted a limitation. So that the effect of it is an agreement on the part of the United States to go ahead with the Boulder project.

Supposing that shortly after the adoption of the act, but before anything had been done under it, and after the adoption of the California Limitation Act, Congress in its wisdom had repealed the Boulder Canyon Project Act: would anyone have the temerity to say that, with that act repealed, the State of California would still be bound by the act which was adopted in consideration of the passage of the Project Act. I think not. The same thing is true now.

Senator McFARLAND. They would not have to repeal the act. You mean, if they had failed to appropriate the money to build the dam. That was a necessary part of it, was it not?

Mr. HOWARD. Oh, yes.

Senator McFARLAND. In other words, the act might stay on the books, and yet the dam would not be built.

Mr. HOWARD. The history of the matter is rather interesting. I do not know how many of you gentlemen were in the Senate at the time of the passage of the Project Act. I know your honored chairman was.

The CHAIRMAN. No; your honored chairman was not.

Mr. HOWARD. Were you in the House?

The CHAIRMAN. Yes.

Mr. HOWARD. Well, the House was honored.

Senator WHITE. He was the most distinguished Member of the House.

Mr. HOWARD. Inasmuch as we are before the court, we will stipulate to that.

Senator WILEY. We do not look that old, do we?

Mr. HOWARD. The effect of the arrangement I think I have outlined, and now I come to the point that it tossed up against us in this transaction all the way through, that if the Boulder Canyon Project Act and the Colorado River compact are approved and all of the waters of the Colorado River were by Congress subjected to the operation of the compact, the compact derived its life from the fact that it was approved by the Congress; otherwise under our Constitution the Colorado River compact could have no life.

The Colorado River compact and the Boulder Canyon Project Act took effect at the same time. That is, the Boulder Canyon Project Act provided that it should not take effect until and unless this compact were signed by six of the States and the President should so proclaim. The President did, in June of 1929, issue a proclamation in which he recited, (1) that the parties had not signed the seven-States compact; (2) that the States had signed a six-States compact and waived the requirement that it be a seven-State compact, and (3) that the State of California had in all things complied with the requirements of the Project Act, and therefore, as President of the United States, pursuant to the terms of the Project Act, he declared that act in effect, and at that moment the Colorado River compact and the Boulder Canyon Project Act had life.

I would like to discuss the compact, its nature, what it means, what the effect of its language is, because that is really the crux of the matter.

The argument is, in brief; that because of the California Limitation Act, the Project Act, and the California delivery contracts refer back to the compact, therefore we are subject to the compact, and whatever the compact says controls.

As I see it, there is no conflict between the Colorado River compact and the Boulder Canyon Project Act, construed as an agreement on the part of the United States to use Boulder exclusively for the benefit of the United States. There is no conflict there. The Colorado River compact is an agreement between the States. The United States was not a party to it. The United States was called upon under the Constitution to approve it before it had life, but the United States is not a party to the compact in the ordinary sense. That agreement was worked up under an act which authorized the representatives of the States to get together for the purpose of apportioning the water among the States.

Senator MURDOCK. Does not the act with reference to the negotiation of the compact provide that the United States shall be represented and that the President shall appoint the representatives?

Mr. HOWARD. Senator Murdock is correct. But the agreement was an agreement between the States for the apportionment of the water. Originally I think the conferees attempted to apportion water to each State, but they found it involved problems that they were not prepared to settle, so they ended up with an apportionment as between the States of the upper basin and the States of the lower basin.

Senator WILEY. Do you contend that the allotment in the treaty of 750,000 acre-feet would not breach the compact, but that an allotment of 1,500,000 acre-feet would?

Mr. HOWARD. No, Senator. I do not take that position. We have certain rights, I believe, but we are willing to waive in part those rights in the interest of international comity. I do not believe that the United States could guarantee to Mexico 750,000 acre-feet each and every year, regardless of the water crop, without the aid of storage at Boulder, because of the necessity for cyclic storage over the heavy rainfall years and the low years. That cyclic storage would be necessary to guarantee even 750,000 acre-feet. So, if we stood strictly on our contract rights I believe we could justifiably say that the Senate through ratification of the treaty could not impose even that burden on Boulder.

Senator WILEY. Would not that depend upon whether or not, as a matter of fact, the taking of the 750,000 acre-feet interfered with the contracts that were issued to your municipalities pursuant to the compact, and so forth?

Mr. HOWARD. I think that before we complained we would have to show injury. I think that is the effect of what you are saying, is it not, sir?

Senator WILEY. Yes. Then you get back to the basic proposition, which is one of fact, whether or not 1,500,000 or 750,000 acre-feet will effect the injury?

Mr. HOWARD. That is true.

May I resume?

Senator WILEY. Yes. Pardon me for interrupting you.

The CHAIRMAN. You want to go on after lunch, do you not?

Mr. HOWARD. I rather suspect that some of the Senators will more or less demand that I come back, because I do not expect my thesis to be accepted out of hand.

The CHAIRMAN. How long will it take you to complete your thesis?

Mr. HOWARD. About 15 minutes.

The CHAIRMAN. The committee will recess until 2:30.

(Whereupon, at 12:30 p. m., a recess was taken until 2:30 p. m. of the same day.)

AFTERNOON SESSION

The committee reconvened at 2:30 p. m., upon the expiration of the recess.

The CHAIRMAN. The committee will come to order.

Mr. HOWARD. May I resume?

The CHAIRMAN. You may resume.

STATEMENT OF JAMES H. HOWARD—Resumed

Senator WHITE. Mr. Chairman, may I ask the witness a question, prompted by the discussion this morning?

The CHAIRMAN. Yes.

Senator WHITE. I understood the witness to be asserting this morning that the Project Act passed by the Federal Government and the Legislature of California determined the contract between the Federal Government and the State.

I want to ask you this: Assuming that this Project Act of the Congress and the California legislation did in fact actually make a valid contract between the United States and California, and assuming next that California regards the pending treaty with Mexico as a breach by the United States of this contract which, if carried into effect, would result in substantial damage to California or its citizens, would there be any right, in your opinion, in California, to restrain, by injunctive process or otherwise, final negotiations and the ratification of this new treaty by the Federal Government?

Mr. HOWARD. To that question I put an unqualified "No." There would be no injunctive relief available to California. The treaty-making power of the United States is derived from the Constitution, and in the event of a breach of such a compact resulting from an exercise of the treaty-making power, it is conceivable that a money judgment might be rendered against the United States in the Court of Claims for breach of contract. But I do not believe that by any process of equity an injunction could be had to restrain the United States from exercising a treaty-making power.

Senator WHITE. Or any action of a preventive nature taken against what you think is a threatened harm?

Mr. HOWARD. No; I do not believe there is any action that could be taken, and I have done some research on that—for the purpose of restraining the United States from doing anything in the exercise of the treaty-making power. It is discretion vested in the Executive and the Senate by the Constitution, and if damages accrue I think the injured party would have to resort to a money judgment, which in the case here would be totally inadequate. You cannot measure in money value the potential development of the Southwest that is dependent on water; it would be utterly impossible to do so. So I think we have no remedy.

That is why I said this morning that, while this committee and the Senate may not have the time or disposition to consider this problem as a court would consider it, with the elaborate arguments and briefs that a court would take, nevertheless you are in the position of deciding a judicial question, because, if you ratify this treaty, you take

out of the jurisdiction of the United States a certain part of the subject matter of the controversy beyond recall.

If I may complete the answer to a question put by Senator Wiley just before the recess, the Senator inquired whether or not we would consider the allocation of 750,000 acre-feet each and every year as the violation of the statutory compact that I have referred to. I said that technically it might be that we would waive anything of that sort, and I wanted to say why. We recognize the principles of comity. We recognize that Mexico had a development from the unregulated stream and that they had used 750,000 acre-feet as a maximum; and that, as in so doing, they had reached the limit of safe and profitable development of the river.

We in the United States interrupted the flow of the stream. I think we are bound in comity, from that regulated flow, to allow to Mexico that amount of water which was available to her under the unregulated flow of the river.

Senator WILEY. When you say are bound in comity, you mean there is an equitable claim; there is no legal claim?

Mr. HOWARD. That is correct. I say bound in comity.

Senator WILEY. In fairness or fair play?

Mr. HOWARD. Fair play and comity of nations indicate that that should be done. I do not think there is anything binding about comity. A man's conscience cannot be bound or coerced. It is just a matter of what we are willing to do in comity toward Mexico.

Unless there is some desire to pursue that subject further, I shall go back to the point I was about to come to before the question was put by Senator Wiley, and that is the nature of the Colorado River compact which forms the basis of all of this legal and contractual situation that exists among the States.

Possibly, too, with the Chair's permission, before doing that I might give a very brief résumé of the position I have developed so far. I see here now some Senators who were not present this morning, and I think possibly they would understand the situation a little better from here out if I very briefly outlined what I covered this morning.

The CHAIRMAN. If it is going to be a repetition of what you said this morning, please make it brief.

Mr. HOWARD. I will try to do that, Senator.

The CHAIRMAN. It is unfortunate that those members of the committee were not here; and it is unfortunate that those of us who were here should have to hear this again.

Mr. HOWARD. If I were sitting on the committee, I am sure I would share the chairman's sentiments.

However, I should like to say just this: That by virtue of the reciprocal legislation evidenced by the Boulder Canyon Project Act and by the California Limitation Act, which was adopted in consideration of the passage of the Project Act, a statutory compact has arisen between the State of California and the United States. One of the elements of that statutory compact was that the dam constructed at Boulder and authorized by the act—the Project Act—was to be used for the benefit of development of lands exclusively within the United States; and there are certain other provisions that I shall not refer to, in the interests of brevity. All of those documents—that is, the Boulder Canyon Project Act, the California Water

Limitation Act, and also the contracts written under those acts in California—include a reference to availability under the Colorado River compact and under the Boulder Canyon Project Act. The question then arises, Is there any conflict between—and here I am starting anew, Mr. Chairman—the Colorado River compact and this statutory compact? If so, which of the two documents controls?

My thesis is that there is no conflict. In considering this point some thought has been given to the fundamental nature of the Colorado River Compact. That document was an agreement among the States as to the apportionment between the upper and the lower basins. That it all it is—an agreement among the States. It has been referred to from time to time as the law of the river. It is not law in the sense that a statute is law. It governs the rights of the States parties thereto, but it does so in the way contracts govern the rights of parties, and not in the way that a statute governs all those within the jurisdiction.

The representatives of the States gathered together in 1922. They realized that over them all was the sovereignty of the United States of America and that there was in the United States of America a treaty-making power over which they had no control whatever. So in making the arrangement among themselves, and realizing that some day a treaty might be made, they said, after having apportioned the water between the upper and lower basins—

If—and notice that “if”—

as a matter of international comity the United States of America shall recognize in the United States of Mexico any right in the waters of the Colorado River, that right should be supplied first by the use of surplus from the waters apportioned by (a) and (b) of the compact and thereafter by equal division of the burden between the upper and lower basins.

All they were doing there was providing for a contingency. They did not create in or reserve to the United States and shred of treaty-making power. That power exists in the United States by reason of the sovereignty of the United States, and not by reason of any Colorado River compact. They were in the position, I submit, of agreeing how the burden should be borne, if it were imposed upon them by a supervening authority—that is, the United States. It is as though seven individuals owned undivided interests in a piece of land and entered into an agreement as to how the tax burden or assessment levied against that land should be borne. They would not create a taxing power. They would not in any way limit it. They would merely be providing how the burden should be borne in the event the burden should be laid upon them.

So, when the United States through the Boulder Canyon Project Act said that, as to waters made available by conservation at Boulder, no such burden would be created in favor of Mexico, they were merely taking care of a contingency that had been foreseen by the parties to the compact. There is no inconsistency whatever. These subjects agreed that if the burden be imposed by the supervening authority, that burden shall be borne thus and so.

Then comes the supervening authority, the Government of the United States, and in another compact, made with the State of California, says, “As to the waters made available, conserved by Boulder, that burden will not be laid upon you”—no inconsistency whatever. The two docu-

ments can be read together and both be given full worth and effect without the slightest conflict.

We come then to a consideration of the subdivisions (f) and (g) of article 3 of the Colorado River compact. Those subsections, you recall, made provision that in 1963, by further agreement among the States, there might be an additional apportionment among the States—not Mexico; among the States. There again we have no inconsistency.

I have heard very extensive debate as to the status of waters unapportioned by the compact. Rather unfortunately, to my mind, the framers of the compact used the words "excess" and "surplus" with respect to that water. I think every western Senator here knows that there is no real excess or surplus in the Colorado River Basin. What they meant and what they referred to as surplus, if you read that carefully, is merely waters unapportioned by the compact. For the purpose of convenience, they call that water surplus, but we all know from the standpoint of use that it is not surplus; it is just unapportioned water. They made no agreement with respect to the division of water. They did agree among themselves that that water might be subject to reapportionment by further compact, which requires consent, of course. It would be a consensual matter after 1963.

Then, what is the status of the water prior to 1963? That question was rather thoroughly answered by Mr. Hoover in the questions submitted by Senator, then Representative, Hayden. You heard them read here; I shall not read them again. The purport of it was that there was no intention on the part of the framers of the compact to prevent anyone from using that water in the meantime. I am referring now to this water unapportioned by the compact.

There is evidence in the record that this Boulder project was a Federal project entirely under Federal control. The United States can say, as it did say, that the benefits of Boulder were not to be extended outside of the United States without in any way crossing up or interfering with the agreement among the States that after 1963, among the States, the water should be apportioned. There is no inconsistency.

I want to emphasize that this whole arrangement, both the Colorado River compact and the statutory compact, was for the benefit of the States. If you trace through the Colorado River compact and Project Act you will find that to be true. To illustrate what I mean, the Congress of the United States did not only approve and ratify the Colorado River compact; it subjected all of the waters of the Colorado River to the terms of that compact. That was a voluntary act on the part of the United States.

In addition to that, the United States said in the Project Act that in every contract or right of way or other grant in connection with the waters of the Colorado River, there should be included a covenant running with the land that the waters of the river were to be subject to the compact. There again the provision is made specifically for the benefit of the States of Arizona, California, Colorado, and so on, naming the States of the Basin. That covenant runs for the benefit of the States.

I think you will all recognize that water rights are relative. That is, a man may have a perfect right as against A and a defeasible right against B if he happens to hold an intervening priority. That is a rather broad analogy, but it illustrates what I am trying to get at here.

I believe that in 1963, or after 1963, and when the other condition is met, that either basin has reached its full compact apportionment, a reapportionment may be made.

Senator MURDOCK. When you use the prefix "re" what do you mean?

Mr. HOWARD. That is wrong; I thank you for the correction, Senator. An additional apportion is what I am trying to get at; an additional apportionment may be made.

Now, conceivably California might have to yield some of that surplus water. I am not admitting that it will, but I say that conceivably it might. But if it did, it would have to yield or some one of the other States of the Colorado River Basin.

In the Limitation Act it is provided that California is limited to 4,400,000 acre-feet of 3 (a) water plus one-half of the excess or surplus. I suppose if we came across a statute to the effect that a man could not build a building more than 10 stories high it would be clearly implied that up to 10 stories he was at liberty to build; or if you cannot drive more than 25 miles an hour by implication you are authorized to drive up to 25 miles an hour.

So when the United States required California to limit itself to 4,400,000 acre-feet of 3 (a) water plus one-half of the excess or surplus, it said right there—subject to the Colorado River compact—that California might lawfully contract for water up to one-half of that unapportioned water. As I said before, if that is a defeasible right, it is defeasible in favor of the other States of the basin who are parties to the Santa Fe compact. That provision does not in any way constitute the setting apart of that water beyond 16,000,000 acre-feet or reserving that water for disposition outside the United States. There is not a line that suggests that.

It occurs to me that there is in the Santa Fe compact a clause which reserves certain Indian rights. The States did reserve Indian rights and protects them; but there is not a line that indicates that that block of water that we call excess or surplus is reserved for disposition to Mexico.

Senator WILEY. Is not that statement to be further limited by the provision (c) in article 3? Did not the States get together and say in substance that if the Government of the United States does enter into a treaty with Mexico as a matter of comity that they shall have the right to do so?

If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system—

and so forth.

Was not the very purpose of that language that the States agreed that if the Government did do so and so, it would take away from the, you might say, very constitutional rights of the States any right to object to the Government doing it?

Let me ask this question: Suppose there were no compact. Do you think that if the Government of the United States entered into a treaty with Mexico to give all the water to Mexico, the States would not have a right to say that that was contrary to the Constitution? Certainly the Government's power of treaty making is limited. The Government cannot enter into a treaty on every subject.

Mr. HOWARD. I think that the United States by treaty can dispose of the property rights of its citizens, leaving them to whatever remedy they may have against the United States for deprivation of property.

Senator WILEY. I realize that, but do you not claim that there is something more than just property rights of the citizens in the natural flow of the river? Is it not also recognized in the compact that this independent sovereignty within its field, has rights that even the Federal Government cannot take away from it, by treaty or otherwise?

Mr. HOWARD. I do not so construe the Constitution, Senator. The State of Colorado has been the leader in establishing the doctrine and urging the doctrine that the waters of the natural flow of streams inhere in the State, not in the Federal Government. As far as we are concerned, in the upper basin they can operate on that basis and, I think, very properly. However, in the lower basin, we have an entirely different situation. There the United States has taken control of the river. It has imposed upon that river a dam, by this compact, between the upper and lower basins. We have cut right across the doctrine of appropriation; it ceases to be applicable. We cannot acquire any rights.

Senator WILEY. I agree to that. That is what you have done by virtue of your contract or compacts. But I went back to the original proposition: That in the compact you had written:

That if, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system—

and so forth, and that if that provision was not in there, the Government before it started to deal with the fundamental rights of the State would have come to the State, would it not?

Mr. HOWARD. I do not think so, Senator. I believe that the treaty-making power of the United States is not affected one whit by what the States did. That power is derived from the Federal Constitution.

If you will drop back to the period of Daniel Webster, you will find that during that time—I wish I could recall the name of the English negotiator, but it slips my memory just now—there was made a treaty which gave to Canada a part of the area that was claimed by the State of Maine. The question arose as to whether the United States had to go to Maine and ask it for leave to do that. That question was answered in the negative; the United States did not have to go to Maine. As a matter of fact, later, and possibly you might call it in comity, I believe that some money satisfaction was given to Maine, but the decision at that time was that the Federal Government by the exercise of treaty-making power could deprive a State of a part of its territory without asking the State's leave.

I think that such treaty-making power overrides everything else, and that the States did not confer anything upon the United States by the making of this compact. They could not agree that the United States could make treaties; the United States can make treaties whether or not the States agree to it.

Senator WILEY. I do not believe I have made myself clear; but then it is so long since I have studied the question. It seems to me that the power of the United States in treaty making is such that it must be within the purview of the powers conferred upon the Government.

The theory of our Constitution is that the Federal Government is a Government of delegated powers.

Suppose the Federal Government should enter into a treaty to cede or give away the city of Washington.

Senator LUCAS. I would object to that.

Senator WILEY. It is giving away everything else. I am just wondering.

Mr. HOWARD. If they do, we will provide a site for the Capital out in the West, Senator.

Senator WILEY. On the Colorado?

Mr. HOWARD. And we hope there will be water to supply it.

Yes, Senator; I think I get your point; that by subscribing to this treaty—

The CHAIRMAN. Was not that the Webster-Ashburton Treaty?

Mr. HOWARD. I believe so.

Senator WILEY. Was not that a boundary-line dispute?

Mr. HOWARD. Yes; that was a boundary-line dispute between Maine and Canada.

I believe it lies within the power of the United States as a sovereign to make settlement with Mexico in the exercise of comity to allow Mexico a certain amount of the Colorado River water; and I do not believe that that right is in any way dependent upon the consent of the States through which that water flows. I do not believe that the States in making that agreement conferred anything upon the United States that it did not have before. I think the only effect of that statement is that they agreed as to how the burden should be borne if that burden should be created and that they recognized the treaty-making power in the United States.

So when we take the only possible source of conflict that we can take in perusing the compact—that is, article 3 (c), where this “if” clause occurs, and articles (f) and (g) where the additional apportionment language appears we find nothing, then, that is inconsistent with an agreement on the part of the United States that the benefits of the Boulder project should be devoted to the development of land exclusively within the United States.

I think that these contracts made subject to that compact do not in any way or by any conceivable construction read as though they said: “There is here a certain block of water reserved for disposition to Mexico. If that water be given to Mexico by treaty, California cannot complain; it will be merely asked to suffer the loss it agreed to suffer.”

From the upper basin’s standpoint, that is moral justification for this treaty. The argument runs that inasmuch as Californians agreed to take this loss, when the time comes to take it we are not justified in complaining. Our position is that we never did agree to take that loss; that we did not do so by reference to the Colorado River compact—and there is a curious mental blindness on the part of some of the readers of all these documents, particularly the water delivery contracts—they say “subject to availability for use in California under the Colorado River compact.” Most people stop reading right there, but that language goes right on: “and the Boulder Canyon Project Act.” So both those documents are referred to, and we have our contracts “subject to availability under the Colorado River compact and

under the Boulder Canyon Project Act," and there is no inconsistency between the two. Both those documents control our rights. Under one of them we are assured by the United States in solemn covenant that those waters will not be applied for use outside of the United States.

Senator WILEY. You are arguing this point: That there is no moral or equitable justification to break a contract with your residents to benefit an outsider?

Mr. HOWARD. You have put it absolutely correctly, sir.

Senator WILEY. That is the point you are arguing?

Mr. HOWARD. Quite so.

Senator WILEY. You say the only relief would be for the residents of California to come to the Government for damages, if they could prove damages?

Mr. HOWARD. I think so. I think the measure of damages would be so difficult to ascertain and that no money judgment conceivable would be compensation to the States of the Southwest, and I include Arizona, for the deprivation of the waters of the Colorado River. You just could not measure it in money.

The CHAIRMAN. Under this Project Act, one of the conditions was that California should pass the California Act?

Mr. HOWARD. That is right.

The CHAIRMAN. In which it said that California will agree never to claim more than 4,400,000 acre-feet of the water allocated to the lower basin.

Mr. HOWARD. No. The statement is, in fact, that California will never claim more than 4,400,000 acre-feet plus one-half of the waters unapportioned by the compact.

The CHAIRMAN. You are right. There is nothing in this act, as I see it, in that clause, that guarantees to give California that; it merely requires California to acquit anybody of any claim in connection with that; is not that true?

Mr. HOWARD. Yes; the act does not give California any water.

The CHAIRMAN. How much water of that 4,400,000 acre-feet—

Senator JOHNSON of California. Let him answer.

The CHAIRMAN. He has already answered, but I will let him answer again.

Mr. HOWARD. That is a limitation, I take it, not a grant. The grant to California came in contracts with the Secretary of the Interior, authorized by the Boulder Canyon Project Act. It is upon those contracts that we rely for our affirmative right to water.

The Senator was about to ask, I take it, what the relationship is between the grants to California agencies and the amounts of water named in them?

The CHAIRMAN. No; I am trying to get at how much of the 4,400,000 acre-feet California is now using.

Mr. HOWARD. Well, let us see. I think it is somewhat in excess of 50 percent.

The CHAIRMAN. Fifty percent. Your claim, then, that California would have an equitable claim to redress from the Government would have to be based on speculation as to what you might claim in the future and what use you might put it to; would it not?

Mr. HOWARD. I do not see it that way. If a man points a gun at your head, you do not have to wait until he pulls the trigger before you complain and take the gun away from him.

The CHAIRMAN. If you never get hit, you do not have to plan.

Mr. HOWARD. If the gun is pointing at me, I am justified in being a little uneasy. If you own a piece of realty and someone puts a lien of record, that interferes or may at some time interfere with your full title to the property. You are justified in complaining right then.

As to this water supply in southern California for the metropolitan area, which I represent, the metropolitan water district took that contract, a solemn contract with the United States of America, signed by the Secretary of the Interior, for 1,100,000 acre-feet of water. That is the equivalent, substantially, to a flow of 1,500 second-feet. We took that contract, and we built an aqueduct that, I think, is one of the most monumental achievements in aqueduct construction in the world. We built to the full capacity of the 1,500 second-feet in reliance upon this contract.

I will have to make a qualification. There are on that aqueduct about 100 miles—I am using round figures—of tunnels. Those tunnels were built at vast expense. This whole job cost us more than \$200,000,000. We were put to vast expense for the purpose of conveying to the metropolitan area of southern California 1,500 second-feet of water.

Water is a commodity, Senator.

The CHAIRMAN. We are not challenging that.

Mr. HOWARD. We built, for reasons of economy, the open sections of the aqueduct so they could be replaced or paralleled. It is cheaper to do that. So I cannot say without qualification that we built to full capacity, but the most costly part of the work, those tunnels, we built to full capacity.

The CHAIRMAN. You have got the water and are using it?

Mr. HOWARD. Not all of it, Senator; we are just starting. This project was put on an operating basis a matter of months ago. The actual quantity of water taken from the Colorado River is trivial compared with the amount for which we have contracted. Water is a commodity that has to be supplied in advance of the need for it.

The CHAIRMAN. I understand that.

Mr. HOWARD. You cannot build up a great city and then go out and look for some water for it; you have to have your water first and then build up.

The CHAIRMAN. When you made these so-called contracts that you speak of, with the Secretary of the Interior, on which you base your claim—you say those are contracts?

Mr. HOWARD. They are contracts.

The CHAIRMAN. You did not have any one of them contain a clause that the contract is subject to the Colorado River compact or Colorado River contract?

Mr. HOWARD. Subject to availability for use in California under the Colorado River compact and the Project Act. You are correct; yes.

The CHAIRMAN. That is in every contract?

Mr. HOWARD. In every contract.

Senator DOWNER. Mr. Howard, several times you have stated apparently that the only effect of the alleged breach of this contract by the Federal Government, if such should occur, would be to give rise to an action for money damages. Would it not give California the

right to raise the obligation of not appropriating water directly but not relieve her from a limitation upon her?

Mr. HOWARD. I think the ordinary law of contracts would apply, Senator. I rather hesitate to say this, because it sounds like a threat, but it is not intended as a threat. However, we are discussing the matter here as a group of lawyers would discuss the effect of a breach.

The United States has entered into this statutory compact with the State of California. Obviously, if the United States breaks its side of the contract, the other side cannot stand. I referred this morning to a phrase that Senator Johnson used. He said that someone—one of the witnesses here—was trying to blow up the dam. He meant by that that someone was trying to destroy the intricate network of contract rights upon which that dam is constructed and thus throw a hand grenade into the middle of that delicately balanced machinery.

Those who have relief upon that statutory compact might conceivably find themselves without its support. I say honestly that it is not in the nature of a threat; it is merely a statement of a situation that might well arise.

We have discussed, sometimes in a more or less acrimonious way, with the people of Arizona, the disposition of the waters of the Colorado River. We have never hit upon a compact or agreement, although there have been earnest attempts on both sides; and I give both sides credit for their grave sincerity. The less water there is available there for those two sides to use, the more intense the controversy will become. The taking out of this whole picture of the California Water Limitation Act will complicate the contract set-up to a point where I would not undertake to say what the results would be.

Senator MILLIKIN. I am a little confused between the argument you based on the limitation statute and the argument you based on your contract with the Secretary of the Interior. As I understand it, the limitation statute limits your claim to 4,400,000 acres?

Mr. HOWARD. No; that is only half the truth. It is 4,400,000 acre-feet plus one-half the excess or surplus unapportioned by 3 (a) of the compact.

Senator MILLIKIN. Under your contract with the Secretary of the Interior, you went beyond that and specified a total of how many acre-feet?

Mr. HOWARD. No, sir; we did not go beyond it.

Let me start again. We have contracted in the aggregate for 5,362,000 acre-feet which, if my mental arithmetic is correct, is 962,000 acre-feet in excess of 4,400,000 acre-feet. That 962,000 acre-feet is probably, under normal circumstances, available out of the river as one-half of the excess or surplus unapportioned by the compact; that is to say, above the 16,000,000 acre-feet which is apportioned by the compact.

Let us assume for the sake of argument that there is 1,800,000 acre-feet. I am using round numbers just to try to make it clear. We will say that California contracts go into excess or surplus up to 900,000. That is one-half of this 1,800,000 in addition to the apportioned water. Then California is within its limitation. That, I think, is the factual situation. If it is not the factual situation, any yielding we would have to do would be in favor of our sister States.

Now, if the United States comes along and by compact or by treaty with Mexico cuts down that surplus so that instead of being, we will

say, 1,800,000 acre-feet, we will take 1,500,000 acre-feet out. There are only 300,000 acre-feet. Then you have definitely encroached upon the limitation placed upon the State of California.

Senator MILLIKIN. In the limitation statute you state in effect that you would not make a claim for water in the lower basin for more than 4,400,000 acre-feet and one-half of the surplus.

Mr. HOWARD. I think that is correct.

Senator MILLIKIN. Is the surplus controlled by the compact, or do you say the surplus is controlled by the contract with the Secretary of the Interior?

Mr. HOWARD. I think the Secretary of the Interior had the authority under the limitation act to contract with California agencies for 4,400,000 acre-feet plus one-half of the surplus, and that our contracts are within that limitation.

Let me follow that up by saying that if by reason of failure of water crop or by reason of the operation of the Colorado River compact there is not that much there—there is not the 5,362,000 acre-feet within our limitation—our yielding would have to be in favor of those with whom we contracted within the United States.

Senator LUCAS. Does your contract so provide?

Mr. HOWARD. The Santa Fe compact plus the California Water Limitation Act, I think, have that effect.

Senator LUCAS. I am talking about the contract you made with the United States.

Mr. HOWARD. No; our contract with the United States, Senator, does not contain any clause authorizing the diminution of the contracted water except as it refers to, call it, the availability clause. It contains a qualification that the grant is subject to availability under the Boulder Canyon Project Act and under the Colorado River compact. Both of them are referred to.

Senator LUCAS. Did the other States of the compact agree to the contract that was made between California and the United States?

Mr. HOWARD. Not directly; no.

Senator LUCAS. Do you not feel that they had an interest in that kind of contract?

Mr. HOWARD. No; I do not.

Senator LUCAS. Suppose water conditions are such some time away in the future that these States do something and that as a result of that Colorado River compact you are going to be compelled to yield. California is going to be compelled to yield to the sister States. That is your argument?

Mr. HOWARD. I think that is right.

Senator LUCAS. But suppose there is nothing in the contract which you have made which compels California to yield?

Mr. HOWARD. I think the risk of that is on the States of the upper basin to find a method of enforcing the obligation. The water comes down from up there and all they have to do is keep it away.

The CHAIRMAN. Let me ask you one other question. You say that the adoption of this treaty would throw a hand grenade into the fine adjustments of this whole system of the river compact, the Project Act, and these contracts. Can you say that when you admit that in every contract there was written a clause that it was subject to the compact and the Boulder Canyon Project Act, and that in the compact there is a clause, to which the seven States agreed, that if the United

States should in the exercise of its treaty-making power send water to Mexico, the amount may be reallocated in accordance with that? Did not that contemplate a treaty?

Mr. HOWARD. I think it did contemplate a treaty.

The CHAIRMAN. Why do you say that the making of a treaty would just throw a bombshell into the fine adjustment of the situation?

Mr. HOWARD. I say that for this reason: The Colorado River compact was an agreement among States indicating how they would bear the burden if it be created by the sovereign. Later the sovereign made another and perfectly consistent contract, in which it said that, so far as conserved waters at Boulder were concerned, that burden would not be created.

The CHAIRMAN. Pardon me. I do not think it said anything of the kind, because in every contract, you say, was the clause that that contract was subject to the Boulder Canyon Act and the State compact act; was there not?

Mr. HOWARD. Yes, I did say that, but the clause I am relying on, however, occurs in the Boulder Project Act, to which the reference is made with dignity equal to the reference made to the compact. There are two separate and distinct compacts: one between the States; one between California and the United States. I think we would all recognize the fact that both of those documents should be given full force and effect in the absence of any inconsistency; and if there be any inconsistency, then we would have to determine by the ordinary rules of construction which one should control.

Let us assume for a moment—I do not yield the point, but merely assume it—that there is some inconsistency between the Boulder Project Act and the Santa Fe compact. Then the Boulder Canyon Project Act—the part of the matter specifically with reference to stored water—would unquestionably, to my mind, control, because of the fact that our Federal Supreme Court has said, in the case of navigation, that the specific provisions of the Boulder Canyon Project Act overcome the general provisions of the compact. But I do not think we have to go that far. I do not believe there is any inconsistency. The United States has made this deal with California—

The CHAIRMAN. I do not like to interrupt you, but this contract with the Secretary of the Interior is more in the nature of a license to use so much water, is it not?

Mr. HOWARD. No, sir; these are contracts.

The CHAIRMAN. Is there any binding obligation on the Secretary to deliver that amount of water?

Mr. HOWARD. Yes; there is.

The CHAIRMAN. Are there any conditions?

Mr. HOWARD. Only that general "subject to availability" clause.

The CHAIRMAN. The law of availability?

Mr. HOWARD. The water delivery contracts contain the availability clause. I will file a copy of the district's contract with the committee and ask that it be printed in the record, if that is proper.

The CHAIRMAN. Very well.

(The document referred to is as follows:)

Mr. HOWARD. The water delivery contract recites—and I believe this answers the question that Senator Lucas asked when Senator McCarran was on the stand. He asked if these water delivery contracts

made any reference to the exclusive use in the United States. The answer is, Yes, they do. They open with the recital:

Whereas for the purpose of controlling the floods, improving navigation and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters for reclamation of public lands and other beneficial uses exclusively within the United States—

and then it goes on and recites—

The CHAIRMAN. Is that in the Imperial Valley contract?

Mr. HOWARD. Yes.

The CHAIRMAN. How do they get all that water down to Mexico? I do not care how they get it down there, but whether they get it there through the Alamo or the San Jacinto.

Mr. HOWARD. It is because we are not using all the water in the United States.

The CHAIRMAN. You say they had a contract not to do anything but use it in the United States?

Mr. HOWARD. No; I did not say that. I said the contract is on the part of the United States not to create any right in Mexico to the waters made available by storage at Boulder.

The Senator asked whether or not this was something in the nature of a license. I say it is not. It is in the language of a contract.

The United States shall, from storage available in the reservoir created by Hoover Dam, deliver to the district—

the metropolitan water district—

each year at a point in the Colorado River immediately above the district's point of diversion (at or in the vicinity of the proposed Parker Dam) so much water as may be necessary to supply the district a total quantity, including all other waters diverted by the district from the Colorado River, in the amounts and with priorities in accordance with the recommendation of the chief of the Division of Water Resources of the State of California, as follows (subject to the availability thereof for use in California under the Colorado River compact and the Boulder Canyon Project Act).

There is another right in that contract that is of great value to the metropolitan water district. It reads this way. I am reading from section 8 of our water-delivery contract.

So far as the rights of the allottees named above are concerned—
and every one of them is named—

the Metropolitan Water District of Southern California and/or the city of Los Angeles—

the city is out of it except as it is part of the district—

shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said district and/or said city (not exceeding at any one time 4,750,000 acre-feet in the aggregate) by reason of reduced diversions by said district and/or said city: *Provided*, That accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final—

and so forth.

In other words, the district was given the right to accumulate water in the Boulder Reservoir so that at times it might exceed its average use; that is, if at times it was using less than its contract requirements, it might accumulate water and use it later when the demand might

be greater. Certainly if that water is drawn off in favor of Mexico, our contract is violated.

Senator McFARLAND. Your contract is violated if the amount is drawn off. That is provided for in the treaty. That would be true, as I understand from your testimony, if a lesser amount were drawn off? That is, if a treaty were made—I will put it this way—for a lesser amount, the rule would be the same, would it not?

Mr. HOWARD. Yes, sir. In the absence of Boulder storage I think we cannot safely make any guaranty of diversion to Mexico.

Senator McFARLAND. Even if it be a hundred thousand acre-feet?

Mr. HOWARD. Whatever it is, if we are going to guarantee that each and every year according to a schedule of deliveries such as is prescribed in this treaty, it is going to need cyclic storage in the United States. But, as I said to Senator Wiley a few minutes ago, we concede that we have no right to a demand in the Colorado River which would deprive Mexico of the natural benefits of the river, so we will accommodate ourselves to a treaty which preserves those natural rights. We can do no less.

Senator McFARLAND. You state that any amount that is guaranteed would be a violation of your contract?

Mr. HOWARD. If it calls upon benefits of Boulder to serve that—

Senator McFARLAND. Any amount that is guaranteed?

Mr. HOWARD. I think the Senator understands western conditions enough to know that no upper user can make a guarantee to a lower user without having cyclic storage to enable him to make that delivery.

Senator McFARLAND. Any treaty which might provide a guarantee to Mexico of a specific amount of water would be in violation of what you state is your agreement with the Government of the United States?

Mr. HOWARD. I think it would. If there were any way by which natural flow could be preserved at the same time vast storage is provided on the river, we might be able to leave Mexico to her natural rights; but when we interrupt the flow of the river, I think we are bound to supply artificially that which they would have had from the natural flow, and we are willing to do that.

Senator McFARLAND. I know, but according to your theory here, as I understand it, the United States is precluded from ever making a treaty which would guarantee to Mexico any substantial amount of water. I think any contract that requires the service of Boulder for the servicing of the treaty stipulations would constitute at least a technical violation of the Boulder Canyon Project Act provisions.

Senator McFARLAND. Well, a violation would be a violation, which would be just a matter of argument.

Mr. HOWARD. Yes. Then it comes down to a question of—I was going to use a Latin phrase, but I had better leave that out.

Senator McFARLAND. Yes; you had. Do not use any Latin on me. I would not understand it.

Mr. HOWARD. Oh, yes; you would, Senator. *Deminimis non curat lex.*

Senator WILEY. The Government has power to do it? The Government could violate your contracts?

Mr. HOWARD. I think the United States has power to violate the contract but not the right.

Senator MURDOCK. On the excess, Mr. Howard, above the specific limitation which has been legislated by California, to wit, 4,400,000

acre-feet, as I understand you, you have contracts now which you consider of a permanent nature which obligate the Secretary of the Interior to deliver to you excess water over the 4,400,000 acre-feet?

Mr. HOWARD. That is correct.

Senator MURDOCK. Is California building permanently on the expectation that the contract will be fulfilled?

Mr. HOWARD. Yes, sir.

Senator MURDOCK. Now, looking back at the rights of the States in the compact, the agreement there was that there should be no division of surplus water until 1963, and until one of the basins had used up to its limitation under the compact.

Mr. HOWARD. I think that is a fair statement.

Senator MURDOCK. Then, do you not think that California has considered lightly the rights of her sister States who have an interest in the compact in entering into a permanent contract for waters in excess of her statutory limitation?

Mr. HOWARD. No, sir; I do not think so. I do not think we have treated it lightly. We have weighed the matter of probabilities; and if we have to do any yielding in the matter, it will be to our sister States, and to them we accord every right under the compact.

Senator MURDOCK. But you no doubt would use the argument, if the matter ever came up for decision, that you had built permanently in southern California, depending on the fact that the contracts entered into were considered by you permanent contracts.

Mr. HOWARD. Well, if we made that defense, I do not think we would get away with it, Senator.

Senator MURDOCK. Well, but you would make it?

Mr. HOWARD. Oh, I suppose if we fell into litigation, if we fell into a battle over the compact, I suppose we would throw in everything in the book. But I believe now, and I think I would believe then, if I live long enough to participate in that litigation, that we would be in honor bound to comply with the Colorado River compact so far as our sister States are concerned; I would do everything in my power to bring that about.

Senator MURDOCK. In the compact itself the only statement made with reference to the division of surplus water is the statement that if the United States enters into a treaty with Mexico, whatever that treaty is, any deficit shall be made up equally by the upper basin and the lower basin.

Mr. HOWARD. After the surplus is exhausted, we are in the vulnerable position there.

Senator LUCAS. It is a signed contract?

Mr. HOWARD. We are in an exposed position. We are in the excess or surplus unapportioned by the compact, and we would be hit first. That would be exhausted before the upper basin States would be touched.

Senator MURDOCK. The point that I am trying to develop is, and I want you to comment on it, that you now take the position that if the United States enters into the proposed treaty, or if it is ratified, it will be in derogation and probably violative of its present obligation to the State of California?

Mr. HOWARD. I think that is true.

Senator MURDOCK. It seems to me that both California then and the Secretary of the Interior have probably "jumped the gun" a little bit

in entering into the contracts that you have entered into which involve the surplus of the waters of the Colorado River over and above what is apportioned in the contract.

Mr. HOWARD. Senator, I think the argument in support of that position—that is, in support of the contracts—does not depend upon use and the assertion that we have so much water, therefore we are entitled to it. I think the argument depends more upon the proposition that in making the contract between the United States and the State of California in which we were given the right to contract for 4,400,000 acre-feet plus one-half of the surplus, we have a modification of the compact, and I say that, as I think this is the argument that would be advanced. The Project Act in its specific provisions overcomes the general language of the contract—I do not want to repeat that argument—and that all of the States of the Colorado River Basin had notice of the situation. The State of Utah by the way ratified the Colorado River compact after the Boulder Canyon Project Act was adopted.

Senator MURDOCK. I find that my State has gone along with California on about everything that she has asked.

Mr. HOWARD. We have.

Senator MURDOCK. And I am just wondering if we should continue it at this time. [Laughter.]

I would like to make this further comment, if I may. I get this picture from statements that you have made today, that you have already gotten a contract with the Secretary of the Interior which in my opinion violates the compact so far as my State is concerned. You take the position that your contracts are permanent and you are building permanently in California depending on those contracts, so that in the years to come when Utah might ask for a project which will be beneficial to her—exclusively, let us say—I am just afraid that California will be up here in the Senate and over in the House making the argument that Congress should not appropriate money for this project—why? Because California has a permanent contract with the Government on which she has built permanently in southern California. I do not like the looks of that picture.

Mr. HOWARD. Senator, there is far less danger of that situation arising without a guaranteed delivery of Mexico which invades our contracts than there would be if such a treaty were ratified. In other words, we have it figured out sir—

Senator MURDOCK. I think you have!

Mr. HOWARD. I may be in error that so long as the United States keeps its contract with us and creates no rights in Mexico that depend upon the Boulder project, there will be enough water in the lower river to satisfy the California contracts without in any way interfering with the development of the upper basin States.

Now, I realize that this matter is one that it would probably take a court weeks to listen to argument and decide, and I do not want to be at all dogmatic about it but I do know that after the Boulder Project Act was adopted the State of Utah ratified the Colorado River compact. I believe there had been a conditional ratification in the State of Utah prior to the project act but the effective ratification of the Santa Fe compact by Utah occurred after the adoption of the Boulder Canyon Project Act, and it was ratified with notice of the

terms of the Boulder Canyon Project Act; and in that Boulder Canyon Project Act, and in the statutory compact we were given the right to contract for 4,400,000 plus one-half of the excess or surplus waters, undiminished by any grant to Mexico.

Senator MURDOCK. So if I understand your argument now, it is this, that the State of Utah, although it was a party with California to the compact, and the two States, with their sister States, had made a bona fide effort to divide the waters equitably between them, then California succeeds in getting the Boulder Canyon Project Act passed, prior to ratification by Utah, which as I understand your argument now modifies the compact; and because the State of Utah ratified the compact after the passage of the Boulder Canyon Project Act, now, Utah is forever foreclosed of questioning California's right to one-half of the surplus waters of the Colorado River; am I right?

Mr. HOWARD. You have stated a possible line of argument.

Senator MURDOCK. I tried to follow you.

Mr. HOWARD. That was what I suggested, a possible line of argument; and on that point the main thing that I am trying to convince you gentlemen of is that any "rows" between the States of the Colorado River Basin dependent upon contract or compact provisions are an internal quarrel and that there is nothing in any of these documents that reserves to or creates in the United States any authority to violate its deal with California and put water outside the jurisdiction.

Senator MURDOCK. So, if I may just follow this, and then I will stop, Senator McFarland—then if I understand your argument it is this, that even if Utah joins California, now, in defeating the treaty, and we save, let us say, 750,000 acre-feet, that Utah had better be on the alert right now because whatever we save from Mexico we will probably lose to California. [Laughter.] That is all, Mr. Chairman.

Senator MCFARLAND. Mr. Howard, after that bargain that these upper basin States drove with the lower basin States in this compact, why, you never even gave a thought that they would ever come back and ask for any more water, did you?

Mr. HOWARD. We have considered that. We have made studies of the potentialities of the development in the upper basin.

Senator MCFARLAND. Well, really and seriously, we have thought that they had more water than they would really use up there, rather than less.

Mr. HOWARD. I have heard the gentlemen from Utah, not Senator Murdock but others, on the subject of their potential developments of water, and I take it that the upper basin States will be in a position to use every drop of compact water that is available to them, and conceivably after 1963, more. I do not know as to that. I am not attempting to pass on that question, Senator. What we are trying to do is to convince you that the fight, if there be a fight—and I sincerely hope there will not be—should be conducted without taking any of the subject matter of the fight out of the jurisdiction.

Senator MILLIKIN. Mr. Chairman, may I ask a question please?

Senator LUCAS (presiding). Senator Millikin.

Senator MURDOCK. We might make a better deal with Mexico than we can with California.

Mr. HOWARD. Well, I doubt that.

Senator MILLIKIN. Let me ask a question, please. Is there a compact at the present time between Nevada, Arizona, and California, and the lower basin States?

Mr. HOWARD. No, sir; there is none.

Senator MILLIKIN. You have not decided on your allocation of water among yourselves?

Mr. HOWARD. No. We have a rather complicated situation there, sir. In a way, the California Limitation Act constitutes a substitute for such an apportionment. That is, they held our side down, but there was no agreement between California and Arizona in the matter.

Senator MILLIKIN. Let us assume merely for the discussion that that is true. I think there might be a very clear off-set urged against it; but let us assume for the purpose of discussion that that is true; is there any debatable question as to Nevada or Arizona, so far as its share of the surplus water in the stream is concerned?

Mr. HOWARD. I know of none.

Senator MILLIKIN. Then on what theory did the Secretary of the Interior make a contract with California that invaded the surplus without the concurrence of these other States?

Mr. HOWARD. The Secretary of the Interior was acting within limitation put upon California; that is, the 4,400,000 acre-feet plus one-half of the surplus; and, let me add—

Senator MILLIKIN. Yes, but half of the surplus is available to all of the States in the entire lower basin?

Mr. HOWARD. But may I say to that, Senator, that since that time the Secretary of the Interior has entered into a contract with the State of Arizona calling for, I think, 2,800,000 acre-feet plus one-half of the excess or surplus with a slight diminution in favor of Nevada, so that with that take-out for Nevada I do not recall the percentage but it is relatively small; Arizona has a contract for the other half of the surplus, and I think it was ratified by the State legislature, was it not, Senator?

Senator McFARLAND. That is right.

Mr. HOWARD. The Secretary of the Interior and the State of Arizona have entered into a contract which in a way is a substitute already, a three-State compact.

Senator MILLIKIN. If it were appropriate I might direct the same questions to the distinguished Senator from Arizona, but let me confine my question to the simple one of, What authority did the Secretary of the Interior have at the time he entered into his agreement with California to allocate the surplus waters of the stream in the absence of a then agreement with these other States?

Mr. HOWARD. He had the authority of the Project Act, sir. The Project Act limited California, as we have said time and again here, to 4,400,000 acre-feet plus one-half of the surplus, and the California contracts fall within that limitation unless we invade it by giving water to Mexico.

Senator MILLIKIN. Was the surplus definite at that time? Did anybody know what it would be?

Mr. HOWARD. Oh, there were estimates. In fact, the river was overestimated at that time. I think they proceeded on the basis of about an average delivery of about 20,000,000 acre-feet a year, and that has since been scaled down by actual observations.

Senator MILLIKIN. That would be pure conjecture, would it not? Not pure conjecture, but based upon probabilities, with all the variations of the estimate that engineers might have on a subject of that kind?

Mr. HOWARD. No; there was certain factual information and, as I think Mr. Elder pointed out, the factual information has been improving in quality so that we can tell pretty well what the flow of the river is from year to year.

Senator MILLIKIN. Then is this true, that at the time you entered into your contract with the Secretary of the Interior you were speculating or guessing or estimating probabilities as to what the surplus might be, is that true?

Mr. HOWARD. I think that is a fair statement.

Senator MILLIKIN. And you made a contract with the Secretary of the Interior on those probabilities as you estimated them to be without reference to the other States at that time, is that correct?

Mr. HOWARD. Yes. Under the authority of the Project Act.

Senator MILLIKIN. Does not the main burden of the contention here revolve around that surplus water?

Mr. HOWARD. If I understand your question, the answer is "Yes."

Senator MILLIKIN. It revolves around that? The strategy of California—and I have no criticism of it at all—is to make that surplus water which is subject to contingencies a firm water right, isn't that correct, as against Mexico?

Mr. HOWARD. As against Mexico.

Senator MILLIKIN. As against Mexico. And how do you reconcile that with the language of the compact which definitely subordinates that division of surplus to possible prior arrangements with Mexico?

Mr. HOWARD. Well, I answer that by saying that after the compact had been written—the compact as you know came into effect at the same time the Project Act did——

Senator MILLIKIN. Yes.

Mr. HOWARD. But after the compact had been written the United States entered into a compact with the State of California in which it said that the benefits of Boulder were exclusively for the United States.

Senator MILLIKIN. Yes.

Mr. HOWARD. Now, that is an exercise of the compact power of the United States. It was a Federal project. The United States could say what was to become of that water, and so in saying that, it merely said that so far as Mexico was concerned no rights in that water made available by Boulder would be granted.

Senator MILLIKIN. Did Congress ever approve your contract with the Secretary of the Interior?

Mr. HOWARD. No, sir.

Senator MILLIKIN. Do you mean to say that the Secretary of the Interior can modify an act of Congress, as reflected by the Boulder Canyon Project Act and also the compact?

Mr. HOWARD. No, sir; I do not say that.

Senator MILLIKIN. No. Then what is the effectiveness of that agreement in the consideration of these things which we all agree do bind us?

Mr. HOWARD. The statutory agreement that I referred to was not made by the Secretary of the Interior. It was made by the Congress of the United States with California.

Senator MILLIKIN. What agreement are you referring to?

Mr. HOWARD. The statutory contract evidenced by the Project Act.

Senator MILLIKIN. I was referring to your contract with the Secretary of the Interior.

Mr. HOWARD. Yes; but those contracts fall within the authority of the Secretary as prescribed by the Boulder Canyon Project Act, and fall within the California limitations.

Senator MILLIKIN. Now, will you be good enough to point me to that part of the Boulder Canyon Act which authorizes the Secretary to make any contracts beyond the California self-limitation statute of 4,400,000?

Mr. HOWARD. Yes; I can give you that.

Senator MILLIKIN. And then my next question will be, Why the California Limitation Act?

Mr. HOWARD. We are getting a little ahead of ourselves, here.

Senator MILLIKIN. We will take one at a time, now.

Mr. HOWARD. What was your first question? Pardon me.

Senator MILLIKIN. I wish you would show me in the Boulder Canyon Act that part of the act which authorizes the Secretary of the Interior to make a contract with California that exceeds the 4,400,000 acre-foot limitation imposed in the California Limitation Act.

Mr. HOWARD. Section 5 of the Project Act reads as follows:

The Secretary of the Interior is hereby authorized under such general regulations as he may prescribe to contract for the storage of water in said reservoir and for the delivery to such points on the river and on said canal as may be agreed upon for irrigation and domestic uses, the generation of electrical energy; the delivery at switchboards to States, municipal corporations, political subdivisions, and private corporations, of electrical energy generated at said dam, upon charges that will provide revenue, which in addition to other revenue accruing under the reclamation law and under this Act will in his judgment cover all expenses of operation and maintenance incurred by the United States on account of works constructed under this Act and payments to the United States under subdivision (b) of section 4. Contracts respecting water for irrigation and domestic uses shall be for permanent service and shall conform to paragraph (a) of section 4 of this Act.

Then I want to go back to paragraph (a) of section 4:

No person shall have or be entitled to have the use for any purpose of water stored as aforesaid except by contract made by the Secretary of the Interior.

Well, now, let us go to section 4 (a). The first part of it provides that the Project Act shall not take effect unless there be a seven-State compact, and then it goes on—

or (2) if said States fail to ratify the said compact within six months from the date of passage of this Act then, until six of said States, including the State of California, shall ratify said compact and shall consent to waive the provisions of the first paragraph of article XI of said compact, which makes the same binding and obligatory only when approved by each of the seven States signatory thereto, and shall have approved said compact without conditions, save that of such six-State approval, and the President by public proclamation shall have so declared, and, further, until the State of California, by act of its legislature, shall agree irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming—

note the absence of Old Mexico—

as an express covenant and in consideration of the passage of this Act, that the aggregate annual consumptive use (diversions less returns to the river) of water

of and from the Colorado River for use in the State of California, including all uses under contracts made under the provisions of this Act and all water necessary for the supply of any rights which may now exist, shall not exceed 4,400,000 acre-feet of the waters apportioned to the lower basin States by paragraph (a) of article III of the Colorado River compact, plus not more than one-half of any excess or surplus waters unapportioned by said compact, such uses always to be subject to the terms of said compact.

Now, I take that to mean, Senator, that the Secretary of the Interior was authorized by section 5 to enter into water-delivery contracts which in his opinion would fall within that limitation.

Senator MILLIKIN. Yes; and so that there is a definite authority over that 4,400,000?

Mr. HOWARD. Plus a half—

Senator MILLIKIN. And that definitely was to fix the firm water of the stream, was it not?

Mr. HOWARD. That applies to the 3 (a) water.

Senator MILLIKIN. Yes; so that all the rest of it concerns surplus as defined in the compact?

Mr. HOWARD. Yes; I think that is correct.

Senator MILLIKIN. Yes.

Mr. HOWARD. The word is not in terms defined in the compact.

Senator MILLIKIN. And in the compact there is a definite foreshadowing of a diversion of part of the surplus to Mexico and in the face of those facts the Secretary of the Interior, on what must have been a purely conjectural basis, enters into a further contract with California that exceeds the 4,400,000, by how much?

Mr. HOWARD. 962,000, or some such figure.

Senator MILLIKIN. 962,000 acre-feet of water per year? Now, I ask you again, by what authority could the Secretary of the Interior make a binding contract for a definite amount of water which could only be conjectured and in which the other States in the lower basin at that time had a right?

Mr. HOWARD. That brings us to the availability clause.

Senator MILLIKIN. Yes.

Mr. HOWARD. He made that contract subject to availability under the Boulder Canyon Project Act.

Senator MILLIKIN. Right.

Mr. HOWARD. And note these words, Senator—"for use in California"—"available for use in California under the Boulder Canyon Project Act."

Senator MILLIKIN. Yes. Well, do you say the Secretary of the Interior could limit the language of the compact?

Mr. HOWARD. No; I do not think he could.

Senator MILLIKIN. No. Then it would not be that narrow under the compact, would it?

Mr. HOWARD. No.

Senator MILLIKIN. Any contract that he made with California would necessarily have to rest on the surplus delivered in the lower basin under the terms of the compact, would it not?

Mr. HOWARD. Yes.

Senator MILLIKIN. Yes.

Mr. HOWARD. But without diminution in favor of Mexico.

Senator MILLIKIN. So that we come right back again to the foreshadowing of some amount of water to be delivered to Mexico by a treaty?

Mr. HOWARD. Yes.

Senator MILLIKIN. And what I would like to see you do is to reconcile your guess with that provision in the compact, which appears in your own contracts. I do not want to disturb the order of your presentation.

Mr. HOWARD. Well, that is quite all right, Senator.

Senator MILLIKIN. Your argument, if I may say so most respectfully, to me—and I may misunderstand it, I probably do—most respectfully, is on the basis as though there were no references in any of the contracts or compacts or treaties that you are talking about, to this possibility of a treaty with Mexico.

Mr. HOWARD. Let me try to cover that ground. Subdivision 3 (c), which is the one you have in mind, I think, is an "if" subdivision; it is conditional; and all that it accomplished was to make an agreement between the upper and lower basin States as to how, if created, a burden shall be borne.

Senator MILLIKIN. That is right; I agree with you.

Mr. HOWARD. I think I could illustrate my point by making an assumption. Let us assume for the moment that the United States goes ahead and breaks its contract with California, that it does do so.

Senator MILLIKIN. Will you permit an interruption?

Senator JOHNSON of California. No; you go on and answer it.

Senator MILLIKIN. I defer to the senior Senator from California.

Mr. HOWARD. Let us assume for a moment that the United States breaks its contract with California and goes ahead and does make the treaty obligation to Mexico. I think that the provisions of the Colorado River compact with respect to the sharing of that burden would probably stand; that is, they seem to me to be two separate compacts, one saying if the United States does something the burden will be borne thus and so; the second compact saying that as to waters conserved by Boulder that will not be done.

Senator MILLIKIN. May I respectfully suggest that the clause you refer to is an "if" clause.

Mr. HOWARD. Yes, sir.

Senator MILLIKIN. The division of surplus is also "if" because it depends on the surplus.

Mr. HOWARD. Is that a question or statement, sir?

Senator MILLIKIN. Well, let us consider it a question.

Mr. HOWARD. Will you read me the question? It sounded a little more like a statement.

Senator MILLIKIN. It was a statement, I am sorry. I shall put it in question form.

Mr. HOWARD. That is what you might call "an invitation to do combat."

Senator MILLIKIN. Thank you for the suggestion.

I will ask you, now, we are both in agreement that the clause you refer to in the contract is an "if" clause?

Mr. HOWARD. Yes.

Senator MILLIKIN. So I will ask you, Are not the provisions for the division of surplus in the compact also "if" clauses in the sense that the surplus must exist to be divided?

Mr. HOWARD. I think that is correct. We cannot know what the water crop is going to be. We have gone through very low periods

and may go through more. We do not know as a matter of fact that the surplus is going to be there at all; but whatever surplus there is there, sir, cannot be lawfully diminished by extending the benefits of the Boulder project to Mexico. That is what I am trying to drive at.

Senator MILLIKIN. Except—may I make a suggestion in reply?

Mr. HOWARD. Surely.

Senator MILLIKIN. Except as that is contemplated by the Project Canyon Act, by the compact.

Mr. HOWARD. I cannot accept the qualification, sir.

Senator LUCAS. Let me ask you one question, sir, on that one point. You technically contend that any diversion of the water from Boulder Dam to Mexico would be a violation of the contract that California, has with the United States?

Mr. HOWARD. May I suggest the substitution of some word for "diversion"?

Senator LUCAS. Yes.

Mr. HOWARD. Can we submit the word "allotment"?

Senator LUCAS. Very well, sir.

Mr. HOWARD. And that any allotment—I take this position, that any allotment to Mexico which depends upon the vast storage at Boulder after the service of that stipulation is a violation of the statutory compact between the United States and the State of California.

Senator LUCAS. And that is notwithstanding the rights that Mexico had under the natural-flow previous to Boulder Dam?

Mr. HOWARD. We interrupted the flow of the river by the construction of Boulder Dam, and we take the position that it is fair, equitable, and just that Mexico's rights in the unregulated river be protected, and we do that artificially by giving them conserved waters. Now, we are willing to accept that.

Senator LUCAS. You are willing to accept that, but you still contend that technically speaking it is a violation of that contract; and the point I am raising now is, if it is a violation of the contract, and California suffers damages as the result of the allotment of any amount, would California then be in a position under your theory to present a claim for damages against the United States?

Mr. HOWARD. In theory, but if you want a written waiver of such claim—

Senator LUCAS. I am not talking about a written waiver. I just picked up your own argument and followed it through to what seemed to me to be the logical conclusion.

Mr. HOWARD. I am very happy that you did. If I was able to present the argument so that you can follow it to that conclusion, that is exactly what I am trying to do; but we do qualify it by this restoration to Mexico of those rights which were inherent in her under the natural conditions. Of course, we have not been able to find any truly international law that governs these matters; there are no precedents; there is nothing to which you can pin a statement that international law requires this or that.

Senator LUCAS. Well, you have a contract with the United States, now, to furnish 962,000 additional feet of water, over what is prescribed in the Colorado compact. Now, if an allotment of any water to Mexico under your theory would diminish the flow of water to

Mexico, to the end that the different things that you have constructed, or, rather, the money that you have spent in California, and the theory of the contract that you are going to get the 962,000, be a violation of the contract, might, it seems to me, probably give you ground for complaint.

Mr. HOWARD. But it seems to me my position in response to that suggestion, Senator, is that if the United States keeps its obligation to California and does not allot any of the benefits of Boulder to Mexico beyond that which replaces her natural right, that the United States will always be in position to make full delivery under the contracts that we have, and in that event I do not believe that we would have any just complaint, or any complaint for that matter.

Senator LUCAS. Are there any other questions?

Senator MILLIKIN. I should like to ask a question. Under the compact as I read it we are going to divide our surplus after we take care of Mexico, if we make a treaty with Mexico. Now, the burden of your argument is, to the extent that you press that argument, that we should divide the surplus water before we make the treaty with Mexico; does it not come to that?

Mr. HOWARD. I do not think so, sir.

Senator MILLIKIN. Not even in part, to the extent of the 950,000 acre-feet, does it not come to that?

Mr. HOWARD. I am not entirely sure that I understand your question, when you say we divide the surplus after making the treaty.

Senator MILLIKIN. Under the compact, we divide the surplus after we have taken care of any amount that we might provide for Mexico under treaty; is that not correct?

Mr. HOWARD. Divide the surplus as between whom?

Senator MILLIKIN. As between the upper and the lower States.

Mr. HOWARD. You mean, with the additional apportionment to be made in 1963?

Senator MILLIKIN. No; I am speaking of before then. We cannot speculate on the future division. But does not the compact provide very clearly that if we have a treaty with Mexico we divide surpluses 50-50 between the upper and lower States? Is not that in there?

Mr. HOWARD. The first water to go to satisfy the Mexican burden would be excess or surplus. If that were not sufficient, then the upper and lower basin would share the burden.

Senator MILLIKIN. Am I not correct in saying that under the compact we first take care of Mexico out of surplus, if there is a surplus, and then we divide the remaining surplus 50-50 between the upper and lower basins?

Mr. HOWARD. You mean, the remaining deficiency.

Senator MILLIKIN. I am speaking of surpluses. Let us assume that the river made 21,000,000 acre-feet. The upper basin gets seven and a half million and the lower basin gets seven and a half million. Mexico, we will say, gets one and one-half million, and we would have one and one-half million to divide between the upper and lower basins. Is not that correct?

Mr. HOWARD. In 1963?

Senator MILLIKIN. I would say, even before that.

Mr. HOWARD. All right. This 1963 does not form any bar. The States out there can get together and, with the consent of Congress, make another apportionment.

Senator MILLIKIN. Will you agree with me that Mexico is to be taken care of before we divide surpluses, under the compact?

Mr. HOWARD. Yes; I think that would be the effect of it.

Senator MILLIKIN. Now we have that pegged down. Is not the burden of your argument that this excess over the 4,400,000 acre-feet provided in the contract with the Secretary of the Interior, which necessarily deals with the same question of surplus, should be given a priority over that provision? Is not that necessarily the burden of your argument?

Mr. HOWARD. Aided by the fact that the United States has agreed not to exceed the benefits of Boulder to Mexico. That is, when we accepted that limitation we accepted a limitation to one-half the excess or surplus to be measured without taking any water out of the conserved water at Boulder and extending benefits of Boulder to Mexico.

Senator MILLIKIN. Then I respectfully suggest that you must assume the burden of showing that the Secretary of the Interior had the right to modify the compact.

Mr. HOWARD. I do not think the Secretary of the Interior did it. If it was modified, Congress did it in the Project Act. All that the Secretary did was to execute contracts within the limits prescribed by the Project Act.

Senator MILLIKIN. That gets us chasing our tails again, because when we come back to that I emphasize the reservations having to do with the compact, and you overlook them.

Mr. HOWARD. No; I am distinctly conscious of them; but I do not read them as you do. You read section 3 (c) as though it said:

There is hereby reserved to the United States the authority at any time in the future to take water out of the Colorado River system and give it to Mexico, in which event the burden shall be borne in the manner outlined.

I do not read it as any such reservation. I do not think it is competent for States to make reservations with respect to the treaty-making power of the United States. I read it merely as an arrangement to meet a contingency making provision for the division of waters in the event that the United States shall make a treaty. Then the United States comes along and makes another deal in which it says that as to certain waters it will not make such a treaty. I see no inconsistency.

Senator MILLIKIN. May I remind you that article 3, paragraph (c), says—

such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b).

Mr. HOWARD. That is correct.

Senator MILLIKIN. To provide for taking care of that as between the upper and the lower basin, I invite your attention to article 3, paragraph (f):

Further equitable apportionment of the beneficial uses of the waters of the Colorado River system unapportioned by paragraphs (a)—

which fixes the acreage at some 500,000 acres as between the upper and lower basin; by (b) which provides for some extra for the lower basin; and by (c) which provides for Mexican water—

may be made in the manner provided in paragraph (g) at any time after October 1, 1963 * * *

Would not that necessarily subordinate the division of surplus to whatever we might agree on for Mexico?

Mr. HOWARD. No. I think that to say that would be to impugn the authority of the United States to build a Federal project, the Boulder Canyon project, under the Boulder Canyon Project Act and say what shall be done with the waters made available thereby.

Senator MILLIKIN. Of course the Boulder Canyon Project Act makes the compact a part of itself.

Mr. HOWARD. Quite so.

Senator MILLIKIN. And so it all has to be read together.

Mr. HOWARD. It approves the compact and subjects the waters of the Colorado River to it.

Senator MILLIKIN. It makes the act effective. I do not see how you can have higher evidence of the serious importance in the legislative scheme of the compact.

Mr. HOWARD. To state my position possibly in another way, I believe that it did not lie within the power of the States to lay any restraining hand upon the Congress of the United States in the development of a Federal project. I think the United States could develop that Federal project and could say what was to become of the waters thereof, without the restraining hand of the States.

Senator MILLIKIN. May I make one more most respectful suggestion. If you do not accept the binding force of those clauses of the compact which we have been discussing, of course there is nothing for us to argue about; but if you do accept it, then I think you must bring it into relation with your argument which would make firm water out of surplus which you have already divided.

Mr. HOWARD. Senator, as between the States, parties to the compact, I fully recognize the force and effect of those sections; but my position is that without violating the contract between the State of California and the United States, the United States cannot now create a right in Mexico which is dependent upon service from the Boulder project and the use of the waters conserved at that project.

Senator MILLIKIN. Is it not true that the contract with the State of California, which you say is being violated, by express reference foresaw the possibility of a treaty with Mexico?

Mr. HOWARD. It did. I have no question about that. But it also might be said to foresee the possibility of the United States declaring what it shall do with its own waters. That is what is happening. So that that contingency does not come into operation so far as the waters conserved by Boulder Dam are concerned.

Senator MILLIKIN. That makes a modification of the compact.

Mr. HOWARD. It is not clear to me that it modifies the compact at all. The compact merely provided for a contingency—what the sovereign might do with reference to treaty making. Then comes the sovereign with its treaty-making power and says that, as to certain water, treaty-making power will not be exercised if it involves the use of conserved water at Boulder Dam. There is not any inconsistency there. There is no limitation there.

Senator MILLIKIN. Except a reservation in each of those documents subjecting them to the compact.

Mr. HOWARD. Yes; but that is a general reference to the compact, and the water is still subject to the compact. Any of the rights between

the States are still subject to the compact. It simply means that the rights in that water may not be extended to Mexico without violation of the deal with California.

Senator MILLIKIN. Let me say this for the last time; that when you recognize the compact, you recognize the possibility of a treaty.

Mr. HOWARD. We certainly recognize the possibility of a treaty. I have no quarrel with that.

The CHAIRMAN. Do you think you can conclude by 4:30?

Mr. HOWARD. Oh, yes; in fact, Senator, I have just two things which are somewhat out of the scope of the discussion that I have been making here. I make only one comment on the treaty itself with reference to the clause which has been read many times, I think, relating to extraordinary drought.

There was an extremely startling statement made here before this committee as to the meaning of the word "extraordinary." The statement was made here by Mr. Clayton, counsel for the State Department, that the word "extraordinary" did not mean anything. That to me is the most amazing statement that a lawyer could put forward. I have not the transcript before me, but I am sure that I remember the effect of it. He said the two periods of low flow that we had had in the last 40 or 50 years were extraordinary droughts.

The CHAIRMAN. I thought you just stated that he said there was no such thing.

Mr. HOWARD. He said that did not mean anything, that it meant just a dry period. In the first place, nobody knows exactly what a drought is. We know it is somewhat dry.

Senator MURDOCK. If you don't know in California, we do in Utah.

Mr. HOWARD. There is no yardstick to measure it by. When you say "extraordinary drought" you may mean something different.

Senator MCFARLAND. Your contention is that they should have put a yardstick in the act?

Mr. HOWARD. I think it is absolutely essential for the protection of all of us that there be some yardstick to measure this so-called diminution.

Senator MCFARLAND. Maybe they just put that in for good measure.

Mr. HOWARD. It says, "In the event of extraordinary drought," and so forth, making it difficult to supply the quantity of water, and that is to be determined by the International Boundary Commission.

Now, gentlemen, Mr. Clayton said that those words had been used in the Rio Grande treaty and that nobody had ever had any trouble about it; that the boys had gotten together and figured out what an extraordinary drought was, and they adjusted the distribution of flow of the river.

That, to my mind, represents the acme of government by men and not by law.

The CHAIRMAN. Why do you not tell us what it is and not spend all of your time discussing Mr. Clayton's testimony? Why do you not tell us your own views about it? If every witness is going to take up the testimony of every other witness and argue about it, we will be here until Christmas.

Senator JOHNSON of California. He has just referred to the testimony of another witness.

The CHAIRMAN. There seems to be no way for this committee to control floods. Go ahead.

Mr. HOWARD. I appreciate the opportunity to keep on, Senator. The CHAIRMAN. There is more surplus here than there is in the Colorado River.

Mr. HOWARD. I think that is probably true. But the point is that those words "extraordinary drought" do have a meaning. Let me quote just two definitions. The word "extraordinary" is defined in the Century dictionary as follows:

Being beyond or out of the common order or rule; not of the usual, customary, or regular kind; not ordinary; exceeding the common degree or measure; hence, remarkable, uncommon, rare, and wonderful.

That definition was used in a Texas case.

In the next case the definition was written for Texas by Texans, and we think they did a very good job. The Texas court defined the word "extraordinary." In this case it involved a flood, and the court said:

The term "extraordinary flood" means such floods as are of such unusual occurrence as cannot be foreseen by man of ordinary experience and ordinary prudence, and differ from ordinary floods, those the occurrence of which may be reasonably anticipated from the general experience of men residing in the region where the flood happens.

Apply that to this situation. We have experienced these droughts. There is nothing extraordinary about them. They would not call into operation that clause in any manner; and, even if they did, the clause is utterly unworkable. I defy any engineer sitting here to say that within any reasonable time he could determine what the reduction in consumptive use in the United States was, so that he could apply any formula for reduction of use in Mexico. By the time he had that figured out, the drought would be over; we would be in another rainy spell. We would have plenty of water. The reduction is to be in proportion, apparently, to the reduction of consumptive use. Those facts simply cannot be ascertained. Moreover, the uses in the United States are all subject to priorities. One man may be out of water entirely, and another man suffer 10 percent. Who under heaven can say what the diminution should be?

The answer to that is that we should have on the Colorado River a sliding scale which would determine it. That is what the Texas people did for themselves. The water in the lower river is divided on a 50-50 basis and depends on the flow at the time.

We think we are entitled to a like protection and that we should have a scaling down, and use the available water in accordance with the water crop of the river.

Senator WILEY. Is that the yardstick you are speaking of?

Mr. HOWARD. Yes. It should be handled as it was in the El Paso resolution in 1942, which was agreed to by all of the seven States, that when Boulder was producing so much water, Mexico should have so much, and that the right should go up or down at the rate of 15 percent of the excess or deficiency, so that Mexico would share with the variation in the water crop.

I merely comment on that one thing. I am not going to try to tear this treaty to pieces, but I do say that the phrase "extraordinary drought" is what Senator Johnson used to call a weasel word; it does not convey any protection whatever to the water users in the United

States in the event of periods of low flow, such as we have experienced in the past and will unquestionably experience in the future.

So much for that.

Now I want to pass to an entirely different subject, and that is this fear of arbitration. I have heard it said that Texans fear only God, and that Californians fear God and sometimes fear the Texans. But we can overcome that fear quite readily. I agree that Texans are not afraid of anything.

The CHAIRMAN. We appreciate your compliments, but it has nothing to do with the case.

Mr. HOWARD. I say that, because I have approached this matter on the basis that fear is an ignoble and unworthy approach. We are not afraid of arbitration. California is in the most vulnerable position, and we say that to fear that by arbitration some foreign country can control the development and handling of our natural resources is to impugn the sovereignty of the United States, and that we should entertain no such fear. I say—although Senator Millikin will not agree with me, I know—that to fear that by arbitration the United States can be forced to break its contract with the State of California seems to me to be an ignoble and unworthy fear and should not be made the basis of any approach to this problem.

The United States Senate very wisely reserved the privilege of stating the question to be submitted to arbitration. I agree that with the national policies we have advocated we are bound to arbitrate. But what is the question? Arbitrate what? Are we going to arbitrate whether or not our own dams, our own investments, are going to be dedicated to a foreign power? Are we going to arbitrate whether or not the United States shall protect its contracts heretofore solemnly made with its own nationals?

I say that is an unworthy fear.

Gentlemen, I think, unless somebody wants to put some more questions at me, that is all I have to say. I would like to announce that at the convenience of the committee we will lay before the committee the factual situation. It will not take very long. I mean, the character of the metropolitan water district, what its assessed valuation is, what its investment is, and all that. There will be another statement made on behalf of the district, but so far as I am concerned, unless some one of you gentlemen has a question, I am through.

The CHAIRMAN. I will ask you just one question. You are aware that the arbitration treaty you speak of is made with 21 American republics?

Mr. HOWARD. Yes. I am not sure of the number, but it is about that.

The CHAIRMAN. So, if we do not live up to the arbitration treaty we not only will offend the nations seeking to invoke it, but probably will offend all of the Latin-American republics, will we not?

Mr. HOWARD. It is not conceivable to me that any Latin-American republic could be offended if the United States announced that it would not arbitrate the use of its own natural resources within its own boundaries. I think they would lose respect for us if we are going to bow down and say that they can reach over, when we have built a reservoir and made water available. Is some Mexican gentleman going to

extend his well-manicured hand and say, "Pardona me, Señor, tengo triste pero quiero las aguas de Boulder Dam?"

To which I say, "No."

The CHAIRMAN. When we make an arbitration treaty it is assumed, is it not, that there may be matters that may arise that we are going to arbitrate?

Mr. HOWARD. That is absolutely correct.

The CHAIRMAN. What more likely thing could there be for arbitration than something relating to a boundary or to the waters of a river that flows through the two countries? What other question is more likely to be arbitrated? Is not that probably the most likely thing to be arbitrated?

Mr. HOWARD. I agree with you, Senator.

The CHAIRMAN. That is all.

Mr. HOWARD. The only question is, What will be the subject of that arbitration; how will the question be framed?

The CHAIRMAN. You say the Senate had a reservation. All the Senate did was to say that the form of the submission should be promulgated by the President and ratified by the Senate. We did not reserve to ourselves the right to arbitrate the things we wanted to arbitrate and not arbitrate those we did not want to arbitrate, because that would be a negation of the whole treaty.

Mr. HOWARD. The language used is that a special agreement in each case shall be made only by the President, and then only by and with the advice and consent of the Senate.

The CHAIRMAN. Exactly. That is the form of the submission.

Mr. HOWARD. Yes, sir.

The CHAIRMAN. But that does not mean that we can refuse to arbitrate anything and not arbitrate at all, when we have a treaty providing for arbitration.

Mr. HOWARD. My position is that we can stand before the eyes of the world in perfect honor and say that we decline to arbitrate with a foreign country the use of our own natural resources.

The CHAIRMAN. I think that is trimming the question. But I will not ask you any more questions.

Senator JOHNSON of California. Of course, he disagrees with that; but you are right, Mr. Howard.

Mr. HOWARD. Thank you, Senator.

May I express my appreciation for the very kindly consideration that I have received at the hands of the committee; and I include my genial friend, the Chairman.

The CHAIRMAN. Thank you very much. I do not have very much courtesy and consideration.

Mr. HOWARD. My reply to that, Senator, is that you succeed in covering it up fairly well.

The CHAIRMAN. Senator Downey, you indicated this morning that you would complete California's presentation at this session.

Senator DOWNEY. Mr. Chairman, you know I told you there were two short witnesses.

The CHAIRMAN. I do not mean to cut you off. How long do you think it will take tomorrow to conclude?

Senator DOWNEY. I understand there are two very brief witnesses here.

Is that correct, Mr. Swing?

Mr. SWING. I gave the list to the chairman. I thought we would finish today. The testimony of the gentleman from Utah, interesting as it was, took a considerable length of time.

The CHAIRMAN. I am not complaining. We will hear you. I would just like to have some idea about the length of time that will be necessary.

Mr. SWING. We are going to finish very shortly.

Senator DOWNEY. I thought you said the remaining witnesses were Mr. Hinds and Mr. Whitsett, and I conveyed that information to the chairman. Did I misunderstand you?

Mr. SWING. That was for today. I expected those two gentlemen to be through completely today.

Senator DOWNEY. Who are the other witnesses?

Mr. SWING. The chairman has the list. I think we can be through tomorrow morning.

The CHAIRMAN. The committee will take a recess until 10:30 tomorrow, in this room.

(Whereupon at 4:30 p. m., a recess was taken until tomorrow, Thursday, February 8, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

THURSDAY, FEBRUARY 8, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room, the Capitol, Senator Tom Connally, chairman, presiding.

Present: Senators Connally (chairman), Thomas of Utah, Guffey, Tunnell, Johnson of California, La Follette, White, and Wiley.

Also present: Senators Downey, McFarland, Millikin, and Murdock. Senator WILEY (presiding). The committee will please come to order.

Mr. HOWARD. I merely wanted to make a correction in the record, Senator.

Senator DOWNEY. You are going to testify further?

Mr. HOWARD. No, I have finished.

Mr. Chairman, in reading the transcript I noticed an answer to a question that does not truly express the meaning that I intended to convey. On page 2034 of the typewritten transcript that was handed to me, after I had said, "The language used is that a special agreement in each case shall be made only by the President, and then only by and with the advice and consent of the Senate," the chairman said: "Exactly. That is the form of the submission."

I said: "Yes, sir."

I did not apprehend, in the heat of the moment, the emphasis placed upon the word "form." I would like to correct that answer to indicate that not only form but substance is involved in the submission; and, referring to the substance, I mean the subject matter that is subject to arbitration under the terms of the Inter-American Arbitration Treaty.

So far as the analysis of that treaty is concerned, I fully subscribe to the statements made by Mr. Shaw in his testimony and have no desire to express any further views of my own.

The statement on the preceding page, 2033, in which the chairman indicated that the boundary and waters of the river were probably a most likely subject of arbitration, shows that I indicated agreement with that statement, but under the terms of the Inter-American Arbitration Treaty I do not believe that inasmuch as comity is not the subject of arbitration that arbitration under that treaty of international boundary streams is likely.

If I may make that correction in my statement, I thank you.

Senator WILEY. Just a moment. You mean, in relation to that last statement, that waters within the borders of our own country were not subject to arbitration; is that right?

Mr. HOWARD. Yes; that is correct, I think.

Senator WILEY (presiding). Mr. Whitsett.

STATEMENT BY W. P. WHITSETT, CHAIRMAN, BOARD OF DIRECTORS, THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Mr. WHITSETT. Mr. Chairman, gentlemen, W. P. Whitsett is my name. I am chairman of the board of directors of the metropolitan water district of southern California. I am also one of the Colorado River commissioners for the State of California.

The first part of my business life was spent in operating coal mines in Pennsylvania and Indiana, where I was bedeviled with too much water; it had to be hauled and pumped out of the mines and then disposed of. Subsequently my health compelled me to go West looking for a dry climate, and ever since I have spent much of my life in the desert.

Senator WILEY. You were at that time bedeviled with too little water?

Mr. WHITSETT. Bedeviled with too little water.

Senator WILEY. Now, you are a normal man?

Mr. WHITSETT. During that period in those places I did considerable ranching and farming and my bedevilment was to get water enough to mature my crops.

In 1926 I was appointed water and power commissioner for the city of Los Angeles, and I served in that capacity until the metropolitan water district of southern California was organized, when I was made chairman of the metropolitan water district, and I continue in that capacity. That is a very broad background of my personal experiences.

Now, with your permission, Mr. Chairman, I would like to read a brief statement.

My distinguished associates, in opposing the ratification of the proposed Mexican treaty, are presenting to you the legal rights upon which our case is firmly based. They are pointing out the vast economic losses to the United States as a whole which will result from robbing the Southwestern States of water required for their defense activities and post-war development in order that Mexico may grow more cotton.

The metropolitan water district of southern California, of which I have had the honor of being chairman since its organization in 1928, will present more of these facts through our general counsel and engineering staff. In the brief time allotted me I would like to point out one fundamental American principle involved in this treaty which might easily escape the notice of those whose time allows only a casual examination of this vital issue.

Because I know you are as much interested in the human factors involved as in the technical facts, let me sketch briefly the part played by the metropolitan water district, which comprises 14 cities of southern California, which, with adjacent areas, have three and one-half million inhabitants. When Boulder Dam was a blueprint in Washington the Government refused to appropriate the \$125,000,000 for its construction until assured that the cost of the dam plus the interest on the Government money advanced would be repaid through the sale of power and water made available by the dam. The Government demanded that this repayment be guaranteed by firm contracts. The metropolitan water district of southern California joined with other

public and private agencies in California and entered into such contracts with the Government, and these communities thus bound themselves to pay for sufficient Boulder Dam hydro power to satisfy the Government demands.

The metropolitan water district, as a matter of fact, bound itself by firm contracts to pay for 36 percent of the firm power available at Boulder Dam, and the district agreed to pay for this large amount of hydro power regardless of whether or not it actually needed or used that power. Thus the construction of Boulder Dam was brought about and made possible.

With construction of the dam thus assured, the people of the California cities which comprise the metropolitan water district went forward with plans to finance and build the Colorado River aqueduct. In September 1931 the people of these district cities authorized by a majority of 5 to 1 a bond issue of \$220,000,000 to finance the initial cost of the giant aqueduct system. These bonds are a first mortgage on all of the real assets of the people in the district cities. This heavy obligation was assumed in order to finance the building of an aqueduct 400 miles long, including the distribution system—an aqueduct which now is carrying water across mountains and desert wastes to supply the ever-increasing needs of agriculture, industry, homes and military installations on the semiarid coastal plain of southern California.

The job of building the Colorado River aqueduct included the building of 5 huge pumping plants required to raise the water a total of 1,600 feet before it can flow by gravity into a terminal reservoir ready for distribution to the industries, defense establishments, and homes situated within the territory of the metropolitan water district. To operate the aqueduct pumping plants the district required electric power, and it was for this power that the district bound itself to pay for up to 36 percent of the total firm output from Boulder Dam. The district did not require any such large amount of power in its early days of operation, and still does not require any such quantity of power; but it nevertheless assured the building of Boulder Dam by contracting to pay for this power whether used or not. As a result of these contracts between the metropolitan water district and the Government, the district thus far has paid out more than \$4,500,000 to the United States Government for Boulder Dam power which neither the district nor anyone else has ever used. This \$4,500,000 has come out of the pockets of the taxpayers of the 14 cities constituting the district.

In meeting this heavy obligation our people have never faltered. We had made that kind of a contract with the United States in order to bring about the building of Boulder Dam. We had absolute confidence in the good faith of our Government to fulfill its end of the contracts, and we were willing to wait and to continue paying this high premium for insurance for our future protection. Our first reward has been the great satisfaction of having this large surplus of electrical power ready and waiting to serve and activate the giant war industries and military installations which became so vitally essential in southern California when the massacre at Pearl Harbor plunged this country into war. Our people have paid dearly for the guaranty we made to our Government in Washington to assure the repayment of the cost of Boulder Dam, but we will never regret the price we are paying if our Government honestly fulfills its end of the contract to make avail-

able to our people the Colorado River water essential to our region in all the years ahead.

I have spoken of the heavy obligation that has been assumed by the communities within our metropolitan water district to bring about the construction of Boulder Dam. Please allow me to speak for only a few moments regarding the financing of the Colorado River aqueduct. To finance the initial construction of the aqueduct, as I have stated, our people voted in 1931 to assume the heavy financial obligation of bonds in the amount of \$220,000,000. Approximately \$180,000,000 of these bonds were sold to the Reconstruction Finance Corporation at an interest rate of 5 percent, later reduced to an average of about 4 percent.

These bonds have long since been sold by the Reconstruction Finance Corporation on the public market at premiums which returned to the Government a net profit estimated to exceed \$13,000,000. Thus, it can plainly be seen, the Colorado River aqueduct has not been benefited by \$1 of Federal aid, but on the contrary has contributed heavily to the financial benefit of our Government's Treasury.

Once more permit me to state that our people do not regret their decision to assume the tremendous aqueduct bond obligation. It was essential that this obligation be assumed if the vitally strategic area on the south coastal plain of California is to go forward with an orderly and necessary program of development. Our people were ready and willing to take up the full burden of this obligation because they had utter faith in the sanctity and dependability of their Colorado River water contracts with the United States Government, contracts made pursuant to the terms and provisions of the Boulder Canyon Project Act which was adopted by Congress in 1928. Insofar as the members of the board of directors was concerned, let me say that not one of our 19 members of the board in those days ever questioned the validity of our water contracts with the Government. It never occurred to any one of us that the time would come when our Government would not keep faith with its own people in the complete fulfillment of its pledged word to make water available as required.

Realizing the imperative need of our region for Colorado River water, we enthusiastically advocated the approval of the aqueduct bond issue by our people, and they, in their turn, as I have previously noted, did authorize this bond issue by the decisive majority of 5 to 1. Incidentally, allow me to point out that no member of the board of directors of the metropolitan water district has ever received \$1 of remuneration for his time and services on that board. It has been a civic enterprise of the highest order in which we have been proud as citizens of the United States to participate. The construction of the aqueduct was started in 1932, in the trough of the depression, when we were able to choose from the eminent engineers of the United States those best qualified to do this unprecedented job. And those engineers, in turn, were able to secure efficient assistants and provide jobs for 38,000 men, at the highest wages of that day and under the best of working conditions.

The aqueduct was completed in June 1941, 5 months before Pearl Harbor. The citizens of the district are proud of this great engineering achievement, not only because it provides life-giving water which is the prime necessity for the future development of farms and homes

for our successors and for returning veterans in some of the most fertile valleys on God's earth but because it has made possible the water and power for the gigantic defense plants which are producing planes and ships by the tens of thousands, and other implements of war—the prime necessity of the United States and our Allied Nations today.

I am quite sure, Mr. Chairman, that you and the other distinguished members of your committee will agree when I remind you that the end of the war will not eliminate the continuing need for naval and military installations and for the continuing operation of heavy industrial plants on the Pacific coast. We have learned, belatedly, that the oceans no longer are effective barriers against aggressor nations. And, until some world organization far more tangible than any now in operation has been tried and proven, the United States in common prudence must maintain an adequate and ever-ready Pacific-coast defense. Southern California is today and must surely remain a strategic area in this general zone of our Pacific defense. The Colorado River is the "last water hole" for southern California. The proposed treaty, in giving to landowners in Mexico Colorado River water which is vitally essential in the maintenance of adequate defenses in this area, I respectfully submit, reveals a shocking lack of foresight in a nation which ought to have learned some bitter lessons since December 7, 1941.

President Roosevelt, in his inaugural address, said:

We may make mistakes. But they must never be mistakes which result from faintness of heart or abandonment of moral principles.

It would be easy to make the mistake of ratifying this treaty unless it were thoroughly studied against a background of all these facts. Such an examination brings out the moral issue to which I would direct your attention.

The metropolitan water district of Southern California and other agencies here represented had no "faintness of heart" when they took upon themselves the building of Boulder Dam, the Colorado River aqueduct, the All-American Canal, and mortgaged their homes and farms and their children's homes to pay for them. I ask you if it would not be an abandonment of moral principle to break faith with such courageous citizenship?

The United States today is writing with the blood of your sons and grandsons across the broad expanse of the Pacific and on the battlefields of Europe its belief in the principles of freedom, equality, and justice, for which American patriots of former generations sacrificed their lives and fortunes.

Not only for ourselves do we defend these principles but for all mankind, and we hold the dream of a world order in which such ideals may ultimately be secured. In these days of planning for world peace, does it not become our first responsibility to see that justice is administered at home, among the States of our own Union? For any sort of lasting peace must be founded on honor and integrity.

The injustice of giving to Mexico more water than that to which she is entitled, in open breach of contracts of the United States with its own citizens after they have in good faith conserved and planned the use of such waters for the benefit of our Nation as a whole, is nothing short of an abandonment of moral principles.

Injustice more than any other single evil eats at the heart of mankind and is the hardest to forget or forgive.

The United States is striving to build good will and friendship throughout the world. But real friendship is not made by the giving of material things. It is made by being the kind of person whom a neighbor can absolutely trust and depend upon. This applies to both individuals and nations.

Good will can never be established by the expediency of injustice, even if the injustice is practiced "within the family."

Foreign relations, I humbly submit, cannot be any better than the domestic policies on which they are founded. And no treaty is any better than the honor of the countries signing it.

Our neighboring statesmen in Mexico cannot honestly respect a treaty made by our Government in violation of its contracts with the Southwestern States any more than one of you gentlemen would respect a trade I made with you by robbing my own son to do it.

You recall it was Germany that called written agreements "scraps of paper." We see the results today. When any nation makes scraps of paper out of its own contracts, it is taking a long step on the road to chaos. Such abandonment of principle would be hard to justify in the United States today, while our boys are dying to reestablish the principles of justice and humanity essential to any civilized order.

For the crucial years ahead, when we shall be sacrificing ever more and more in the name of democracy, justice, and humanity, calling for the perfect unity and teamwork of every State in the Union, we can ill afford to plant the seeds of animosity between the States of California and Texas. And we should so guard the principle of justice in our domestic and foreign policies that when we gather one day around a conference table with Mexico and our other good neighbors, to talk to and with them about a just and lasting peace for all the world, they may have no cause to mistrust our sincerity.

Thank you, gentlemen.

Senator WILEY. Are there any questions?

Senator DOWNEY. No.

Senator WILEY. Mr. Hinds is the next witness.

Senator MILLIKIN. Might I ask just a question for information?

Senator WILEY. Yes.

Senator MILLIKIN. Of the water that has been allocated to your project, how much of it is firm and how much of it is what we might call "secondary"?

Mr. WHITSETT. I think that is a question that I will have to refer to our engineers. They know the exact answers, and there are so many qualifications.

Senator DOWNEY. Mr. Chairman, I can give that answer.

Senator MILLIKIN. Will you, please.

Senator DOWNEY. The total grant to the metropolitan is 1,100,000 acre-feet, of which one-half, or 550,000 acre-feet, is within the firm water—that is, the 4,400,000—and 550,000 is in the secondary class of water.

Senator MILLIKIN. Now, I would like to ask one other question. Is there any allocation under your contract with the United States of money between the power purpose and the water purpose? I was trying to figure out how much money for which you folks have com-

mitted yourselves is committed to the power side and how much to the water side.

Mr. WHITSETT. We had to make those contracts. The district agreed to take 36 percent of all the firm power generated at Boulder Dam, whether we used it or not.

Senator MILLIKIN. And you are now paying for more than you are using?

Mr. WHITSETT. We have already paid out \$4,500,000 for power we never used and that nobody else has ever used.

Senator MILLIKIN. And that, I assume, will continue, of course, until your power—

Mr. WHITSETT. At the present time the war industries are using most of that power, but any time that activity stops, we must continue to pay for the power, whether we use it or not, if we cannot find another customer for it.

Senator MILLIKIN. Let me ask this: What percentage of the water that you feel you are entitled to are you running through the aqueduct?

Mr. WHITSETT. A very small percentage, but we have to keep the adequate capacity for these recurring droughts. If we were running our aqueduct full and using it and then a drough occurred, we would be without the necessary water. It is an insurance against those droughts, and they are not extraordinary droughts, they are droughts that happen every 15 or 20 years.

Senator MILLIKIN. Now, may I ask you another question. I think there has been some testimony on that, but unfortunately I was not here. What population goal are you driving toward in relation to your aqueduct plan? How many people do you intend to take care of out of your aqueduct, let us say, within 25 or 30 years—something of that kind?

Mr. WHITSETT. To support the economic structure of a great population which is now 3,500,000, depending on the aqueduct in southern California, we must never let the ambition to increase population leave our people without water when these droughts occur.

Senator MILLIKIN. Oh, I quite agree with you on that. And I have seen California make good very optimistic estimates on population, and I am just wondering—have you a present estimate of population out there, say, in 15 years or 20 years or 30 years?

Mr. WHITSETT. Oh, there are estimates by different organizations, based upon how the growth reacts to their special activities. We are trying to discourage a too rapid growth, so we will not run short of water when these droughts occur; and they are not extraordinary droughts; they are regularly recurring droughts that happen every 15 or 20 years and last from 7 to 12 or 15 years.

Senator MILLIKIN. I do not want you to understand that I am trying to make an argument that you should not provide for your future; of course, you should. I was merely asking for information. Thank you very much.

Mr. WHITSETT. I am sorry if I have not given you the information that you were seeking, Senator.

Senator MILLIKIN. Thank you very much.

Senator DOWNEY. Mr. Chairman, if I may ask a question. Isn't it estimated that the probable expectation of growth within 25 or 30 years from now, not even considering drought periods in southern

California, will require most of the capacity of the metropolitan aqueduct?

Mr. WHITSETT. In drought periods; yes; all of it.

Senator DOWNEY. That is all.

Senator WILEY. Next witness, please. Mr. Hinds.

STATEMENT BY JULIAN HINDS, GENERAL MANAGER AND CHIEF ENGINEER, METROPOLITAN WATER DISTRICT OF LOS ANGELES

Mr. HINDS. My name is Julian Hinds. I lived in a lot of States involved in this thing. I grew up in Texas, went to the University of Texas for the study of engineering, graduated there in 1908, taught engineering there for 1 year after that, then I did a little railroading for about a year. Then I went out to the State of Washington and went to work for the Bureau of Reclamation on the Sunnyside unit of the Yakima project. From there I went to New Mexico and was resident engineer on the Elephant Butte Dam. From there I went to Denver, when the Bureau of Reclamation office was organized there, and I was chief draftsman and designing engineer there until 1926. During that time I had something to do with practically every structure that was designed or built by the Bureau of Reclamation in that time, and I gained a very wide experience in irrigation and waterworks engineering. But from there, because I had an opportunity practically to double my salary, I went to Mexico and worked for the Government in Mexico for 2½ years and built the Calles irrigation project in the State of Aguas Calientes in Mexico.

In 1929 I came to Los Angeles and started to work for the city of Los Angeles on the Colorado River aqueduct. The metropolitan water district had not at that time taken over the organization that was working on that aqueduct. Then about a year later, when the metropolitan water district came into funds, they organized their own staff, and I went over there as designing engineer, and I have been there as the designing engineer, assistant chief engineer, and now as the general manager and chief engineer, since that time.

I have a statement here that runs about four pages and a half. It concerns the physical set-up of the aqueduct and why we need water and a few things of that kind, and I believe that every Senator present here is fully familiar with it, and I want to file this statement and then I want to have the privilege of going to the map here and making just a few additional statements. I do not think it will take me more than 2 or 3 minutes.

The metropolitan water district of southern California consists of the corporate areas of 14 cities and certain unincorporated areas in the south coastal basin of California. The cities are Anaheim, Beverly Hills, Burbank, Compton, Fullerton, Glendale, Long Beach, Los Angeles, Pasadena, San Marino, Santa Ana, Santa Monica, Torrance, and Laguna Beach, the last-named appearing officially as part of the coastal municipal water district.

The legislative authority creating the district permits the annexation from time to time of other areas in need of water.

The present population of the district is approximately 2,500,000, and the latest assessed valuation is \$2,100,000,000.

The basin in which the district is located includes the costal plain portions of Los Angeles, San Bernardino, Riverside, and Orange

Counties, with a habitable area of 1,400,000 acres. This entire area is deeply immersed in war work. It leads in airplane production and is important in shipbuilding and many other kinds of war activity.

After the war this area will of necessity take a lead in Pacific trade expansion. Many of the plants now "going all out" on war producing peacetime goods in 1941. They will return to such production when the war is won, to supply goods and jobs to returning soldiers and the people of the Southwest. There must be many new plants, if all are to be provided for.

These workers must have homes and food, which require water. Some foodstuffs will be produced locally, but chief dependence must be placed on Imperial Valley, Arizona, Nevada, and other Colorado River Basin communities, all of which depend absolutely on Colorado River water.

The metropolitan basin was originally desert. Precipitation is about 15 inches per year, on the average, falling mostly in the winter, when least useful for growing crops. It is very unevenly distributed from year to year. The lowest annual record is 5.6 inches, and the highest, 38.2 inches. Frequently several dry years come together, making some kind of artificial water supply absolutely essential. This has resulted in the extremely efficient development of underground and surface storage and the most careful and scientific utilization of available supplies.

But, regardless of care, 15 inches of rainfall is not sufficient to support existing developments in southern California. As a result, the vast underground basins which furnished a bountiful supply for early settlers are heavily overdrawn and long ago began drying up, making obvious the imperative need for an outside supply.

Areas immediately outside the basin are even more arid than the basin itself and contain no exportable waters. A long aqueduct to a distant source was the only available solution when local sources failed.

About 1913 the city of Los Angeles completed such an aqueduct to the eastern slopes of the Sierra Nevadas. This gave temporary relief, but in 10 years its exhaustion was in sight. More water was obviously needed, and it could come from only one source—the Colorado River.

This need for more water for southern California played an important part in the negotiations leading to the construction of Boulder Dam. With the construction of this dam assured, and with firm contracts for water signed by the Secretary of the Interior, and supported by the compact and the Boulder Canyon Project Act, it was felt that a firm foundation had been laid for a water right, and Los Angeles and its neighbors began planning means for utilizing this new resource. The metropolitan water district of southern California was organized, and the preparation of plans for an aqueduct were begun.

Estimates placed the need for the Los Angeles metropolitan area at about 1,500 cubic feet per second. No such quantity of water could be diverted, at feasible cost, from the unregulated flow of the river because, as previously testified, the entire normal low flow of the river was in use. However, sufficient unappropriated floodwaters were available in the river to meet this need. Boulder Dam offered the

necessary means for the conservation of these flows. The Boulder Canyon Project Act, authorizing the construction of Boulder Dam provided that the conserved waters could be had by contract with the United States, and only by such contract. The act also specifies that the conserved floodwaters are to be reserved for use exclusively within the United States. A contract was accordingly entered into with the Secretary of the Interior, granting to the district the right to divert from the river 1,100,000 acre-feet per year which is approximately equivalent to a continuous flow of 1500 cubic feet per second.

Relying upon the security of this contract, and other contracts with the Secretary of the Interior for power with which to pump the water over the mountains into the coastal area, the district proceeded to plan and build Parker Dam and an aqueduct across the State of California, from the Colorado River to the coast.

The aqueduct system is usually thought of as being divided into two parts—the main aqueduct and the distribution system. The main aqueduct extends from the Colorado River to Lake Mathews, a terminal reservoir near Riverside, Calif. It has a total length of 242 miles, made up of 92 miles of tunnel, 63 miles of buried conduit, 29 miles of inverted siphons and about 4 miles of other types of waterway. It contains three dams and reservoirs including Parker, but excluding Lake Mathews which is considered a part of the distribution system.

It is necessary that the aqueduct rise up as it flows westward, to clear the coastal range of mountains, and to accommodate itself to a rising topographic plane. Consequently, the water must be lifted more than 1,600 feet in five pumping plants, distributed along the line as required by the ground slope. These pumping plants require vast quantities of power, which is being purchased from the Government at Boulder Dam.

All of the reservoirs, tunnels, lined canals, and covered conduits and many of the inverted siphons on the main aqueduct are built for a flow of 1,605 cubic feet per second, which is sufficient to transport all of the district contractual allotment, with reasonable time out for repairs. Practical considerations made it desirable to build some of the long higher pressure inverted siphons in two parallel barrels. Where this was necessary, one barrel was left for future construction, as required by growth in demand. The pumping plants also consist of multiple units, three out of an ultimate nine in each plant being installed initially. The present installation will pump 600 cubic feet per second, or about 400,000 acre-feet per year. The aqueduct itself, as previously stated, is capable of carrying the full allotment of 1,100,000 acre-feet per year, except for a few miles of inverted siphon, which are for half capacity or 500,000 acre-feet per year. The part capacity items can be brought up to full capacity quickly, when the need arises.

Power for pumping water in the main aqueduct is generated at Boulder Dam, on generators installed by the United States Government, but for which the district assumes financial responsibility. This power is transmitted to the various points of use over 237 miles of high-voltage transmission lines, constructed, owned, and operated by the district. These facilities are capable of handling the entire ultimate

allotment of 1,100,000 acre-feet per year, except that one additional generating unit eventually may be needed as a spare.

Power is furnished under a contract which requires the district to pay for approximately 36 percent of the total firm potential capacity of Boulder Dam, and payment must be made regardless of whether the power is used or generated. In fact, the district to date has actually paid \$4,500,000 for energy which it was unable to use or to resell. Had it not been for the unprecedented demand for power for war work, this loss would have been much greater and it may be greater in the future.

The distribution system is made up of five reservoirs, 152 miles of pipe lines, and 16 miles of tunnels. The pipe lines vary from 12 feet to about 2 feet in diameter. Lake Mathews and the primary portions of distribution lines are of sufficient capacity to handle about half the allotted flow; that is, about 500,000 acre-feet per year. The entire system is laid out to permit ready extension to areas in need as the demand increases.

Construction of the aqueduct was accomplished in the years 1932 to 1941. The net construction cost was \$189,370,000 of which \$180,684,000 was derived from the sale of district bonds and the remainder from taxes and other sources. These figures include the cost of Parker Dam, which was built by the Bureau of Reclamation, but with funds furnished in advance by the district. After construction, the dam and the reservoir became the property of the United States. The district was permitted to retain diversion rights and half the power privileges. The other half of the power privilege and the right to divert water from above the dam go to the Government without charge.

Interest during construction and payments for unused power add another \$39,000,000 to the cost of the project, as now constructed, bringing the total up to about \$223,000,000. Interest charges, of course, continue, and the total outlay to date runs between two hundred and forty and two hundred and fifty millions of dollars.

Deferred items which must be built to provide full carrying capacity in the aqueduct and distribution system will cost about \$65,000,000.

All of the initial construction work was completed and the aqueduct put on an operation basis in 1941. Since that time it has been serving its purpose by supplementing the local water supplies of its constituent areas. Diversions from the river, to date, by fiscal years, have been as follows:

	<i>Acre-feet</i>
1939-40-----	142, 240
1940-41-----	75, 323
1941-42-----	23, 021
1942-43-----	47, 510
1943-44-----	28, 300
5 year average-----	1 63, 500

¹ Equals 88 cubic feet per second.

The people of the metropolitan water district have assumed a very appreciable financial burden in the construction of these works. This burden was assumed with the assurance that the underlying laws and Government contracts would be honored. The proposed treaty, if

ratified, will violate the very clear intention of the Boulder Canyon Project Act, and impair the ability of the United States Government to fulfill its solemn contractual obligation to these people.

I respectfully recommend that this treaty be not ratified in its present form.

Senator WILEY. All right. Proceed to the map.

Mr. HINDS. This is a map that shows the general arrangement of the aqueduct, and I will file with the clerk a small size copy of this map which he may use or put in the record if he so wishes.

(The map referred to, entitled "The Metropolitan Water District of Southern California—Colorado River Aqueduct," is on file with the clerk of the committee.)

The metropolitan water district is located in the valley, here, that we call the south coastal basin, and the only thing that I want to point out about that is that this small area here is very intensively developed and it contains almost half the wealth and half the population of the State of California. When you are taking water away from it you are doing a serious injury to the entire State of California.

Senator WILEY. Are you going to talk to the point that it would take water away?

Mr. HINDS. I think that has been talked to. What I want to show is the seriousness of this thing to the metropolitan water district, and I am going to say very few words, Senator, about it. I am not going into any extensive statement about it. In fact, that is about all that I want to say, except that you can see that we took the water from the river 300 miles away, and we had to pump it at various places to get it into the coastal plain area. That is all covered in the written statement, and I do not need to go into that.

Senator DOWNEY. Mr. Hinds, what is the maximum distance of the aqueduct carrying the water down through the metropolitan area?

Mr. HINDS. The total length of all the lines that are shown on this map is 410 miles. You will hear the figure 400 quoted, but we have recently added about 13 miles; and it is now 410 miles.

Senator DOWNEY. If I could ask one more question, Mr. Chairman—will the aqueduct that reaches the San Diego area that is now being surveyed increase the total length or will that be shorter?

Mr. HINDS. That line will take out here [indicating] and it will be about 75 miles, but the total distance from the river to the reservoirs in San Diego is less than the total length of 410 miles. It is not that far.

The only thing I want to say is that this area is desert area, with a very low rainfall, and the people cannot exist on the water supply it has. It has only one source from which to get water, and that is the Colorado River.

In Mexico they need water in the delta. That has been definitely shown here. But Mexico has many water resources that they can develop, and we feel that they should not be given these resources that we have developed.

As I understand it, they have a very beautiful territory down on the west coast of Lower California, one of the nicest places to live in the world, and they have a lot of water down there that is not developed. Why do they not develop that? We would not have any

objection to that; but for goodness sake don't take our water supply away from us and give it to Mexico unjustifiably.

That is all I have to say. I wanted to make these few remarks. Everything that is factual is covered in my statement.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

Senator WILEY (presiding). Certainly.

Senator MILLIKIN. Where is that area getting its water from now, other than from the aqueduct source?

Mr. HINDS. This area gets its water from underground sources that are badly overdrawn. The gravel is perhaps a thousand feet deep in many places, perhaps more than that; and the earlier settlers there were constantly in trouble because their cattle were starving to death and they were starving to death. Finally it was discovered that this was a natural artesian area, and all they had to do was to drill wells and the water just gushed out.

Just after the turn of the century Los Angeles was in trouble, and they built an aqueduct that went up past Baker Field, on the east slope of the Sierras, and they took what water they could get there.

Senator DOWNEY. How long is that aqueduct?

Mr. HINDS. It is usually spoken of as 250 miles. They have extended it now, and it is somewhat longer than that.

Senator MILLIKIN. Are you using all the water you are permitted to use under the Owen River aqueduct rights?

Mr. HINDS. They are transporting all the water they can. I would not be able to say that they are using every bit.

When I went to Los Angeles in 1929 to start work on this aqueduct Los Angeles was doubling its population about every 10 years, and the surface supplies of the aqueduct had failed, and they had gone up into the Owens River Valley and put down a hundred wells and were pumping the water to supply the aqueduct from there, and those were nearing exhaustion, so they were really in a panic when we started plans for the Colorado River aqueduct. Then came the depression and 10 wet years. That has relieved the panic phase of the situation, but that will return, of course.

Senator DOWNEY. Has not Los Angeles also extended that aqueduct from Owens Lake up to Mono Lake?

Mr. HINDS. Yes; that was done in order to firm up the water right for the present aqueduct. They found, after they had built this aqueduct, that there really was not enough water to fill the aqueduct to its capacity of 450 second-feet. That will run about 300,000 acre-feet a year. There was not enough water to keep it full. So they extended it to another basin and took in the last bit of water they could get from the Sierras. There is no more water up there that is worth developing and bringing such a long distance.

There is another thing I want to call attention to: all of this area outside of these mountains is desert area. It has only 3 or 4 inches of rainfall. You have got to go a long distance for water. We do not have any other place but the Colorado River. That is the only place there is.

Senator MILLIKIN. Does the projected aqueduct to San Diego, or the branch aqueduct, I suppose you might call it, rest on firm water or secondary water under your own allocations out there?

Mr. HINDS. San Diego's water right is in the same class as the district's second water right: it comes out of the surplus.

Senator DOWNEY. Mr. Hinds, is it not true that several of the wells in many of the wells, in the Los Angeles area have been closed down because of encroaching salt from the sea?

Mr. HINDS. Yes; that is true. In this area all of this part of the county of Los Angeles that is not in the city of Los Angeles is not yet in the metropolitan water district, and they have just had a report from the Water Resources Commission and the United States Geological Survey calling attention to the very serious condition that they are in. All of the wells are far below sea level, and they are gradually becoming salt, one by one, back away from the shore line, and if they do not do something about it in the very near future, of course, those wells will be spoiled, and it may be several generations before they can be recovered. I think there is an area there of some \$100,000,000 worth of assessed valuation that will have to come into the district within the next 6 months.

Senator MILLIKIN. Is your local water table supplied by local rainfall, or is it replenished by any long-distance streams that come through there?

Mr. HINDS. No. There are no long-distance streams. That is one outstanding thing about Los Angeles: there is no river coming from any great distance. The longest river is the Santa Ana, which hits right in here some place [indicating on map]. There are no long rivers coming in there at all.

Senator MILLIKIN. Is that a sizable stream?

Mr. HINDS. It is dry most of the time. It carries quite a lot of water sometimes in floods, but is dry most of the time. It would not be dry except that all the perennial flow of it is taken out for irrigation and domestic uses.

ADDITIONAL STATEMENT OF ROBERT W. KENNY, ATTORNEY GENERAL, STATE OF CALIFORNIA

Senator WHELY. I want to say to you gentlemen that we have to go into the Senate at 12 o'clock. The time that has been allotted here will take care of the situation by hurrying along.

Mr. KENNY. I testified earlier, before this committee. I am Robert W. Kenny, and I am the attorney general of California.

When Mr. Carson, of Arizona, was on the stand he testified concerning the land interests in this portion of Mexico that will be benefited by the treaty. He read some testimony of a Mr. Harry Chandler, of Los Angeles, given before a committee of the House in 1934 in which Mr. Chandler testified that he was the acting head of a syndicate of American citizens who at that time owned 830,000 acres in this area.

I did not want to let the hearings close without disclosing to the committee where the ownership of that land is now. I would like to take the committee a little bit behind the woodpile to see who the persons are who are going to be benefited by this treaty. Instead of 10 millions, I think I will be able to disclose to the committee that the principal beneficiary of this treaty is a former officer of the

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American Government, a former official of the State Department; that he acquired over two-thirds of the lands to be served by this treaty last year while this treaty was being negotiated by the State Department.

I have a letter from Mr. Chandler addressed to me during his lifetime. He died late in September of last year. This letter was written to me on September 11; and I am going to ask that it be put into the record.

Senator WILEY. It is so ordered.

Mr. KENNY. I would like to read two excerpts from the letter for the committee's information. He says:

In 1938 the Mexican Government expropriated to agrarian uses approximately 287,000 acres of company lands, including substantially all of the developed areas.

That would be 287,000 acres reduced from the total of 830,000 acres which Mr. Chandler testified his syndicate held in Mexico in 1924. It would be something over 550,000 acres to be disposed of.

In the next to the last paragraph of Mr. Chandler's letter to me he makes this statement:

In order to bring about a final winding up of this unsuccessful Mexican venture every effort was made to make a sale of the properties, and finally during the year 1944—

the year that the treaty was sent to you gentlemen—

finally during the year 1944 a deal was concluded with W. O. Jenkins, a resident of Mexico, whereby he took over the remaining property of the Colorado River Land Co. in exchange for certain properties owned by him in the United States. These latter properties have a value which we estimate to be not in excess of \$360,000 * * *

In other words, Mr. Jenkins was able to acquire this vast domain outside of the part of the area that the Mexican Government took over for its colonists. He was able to acquire the balance of it at something a little over 50 cents an acre.

I do not know how many of you gentlemen recall who Mr. Jenkins is, but I think I will be able to refresh your memory and be able to convince you that a further investigation of Mr. Jenkins and his activities should be carried on; and I make the charge that the records will show that he is perhaps the most dangerous enemy of the good-neighbor policy that we have had; that Mr. Jenkins is a man who in 1919 brought the United States and Mexico almost to the verge of war.

I obtained this information, which I will read to you, from the files of the New York Times across the street in the Library of Congress in the last few days.

On February 26, 1918, Mr. Jenkins was appointed American consular agent at Puebla, Mexico, holding that position until November 30, 1930, when the Puebla office was closed and he handed in his resignation.

It was in 1919 that Mr. Jenkins first came into public notice. As I said, he was at that time the American consular agent at Puebla. He at that time held extensive sugar lands and was also a manufacturer. He was, according to the New York Times, not only an American representative of this Government, but a well-known and influential member of the community. How influential he was will be disclosed further on in my statement.

In 1934 the New York Times reported him to be the second richest American in Mexico, owning large haciendas and textile mills in the State of Puebla.

Back in October of 1919, when this incident that I am going to describe to you occurred, General Carranza was the President of Mexico, Woodrow Wilson was the President of the United States, and the Secretary of State was Mr. Lansing. Decades before the advent of the good-neighbor policy and years before the achievement of stable government in Mexico, relations between the United States and Mexico were strained. With a fear for the safety of United States oil and other holdings in Mexico, there were charges in this country of a Bolshevik menace below the border. In Mexico itself President Carranza was constantly alerted before the threat of armed opposition to his government, some of it of native inspiration and some of it said to be of United States derivation.

You will recall that in those days in certain quarters in our own country responsible public officials—at least, they were in responsible positions—would urge the annexation of Mexico. It was in this general atmosphere that the Jenkins “kidnaping” occurred. I will put that in quotation marks, because I think, when your memory is refreshed on this incident, it will convince you that it probably should be in quotation marks.

The best story of the incident is to be found in the New York Times of October 23, 1919, which was followed the next day by a column editorial calling the kidnaping an outrage and predicting a celebrated case in our relations with Mexico.

The news story of that date reported that W. O. Jenkins had been kidnaped on October 17 and held for ransom of \$150,000, or 300,000 Mexican pesos.

During the next few months the case grew to front page and banner headline proportions and brought the United States and Mexico to the brink of war.

Briefly, this is what happened. The State Department protested to the Mexican Government and demanded Jenkins’ release and payment of the ransom by the Mexican Government. In less than a week Jenkins was released, but his friends paid his ransom. However, that did not end the matter. Anti-Mexican sentiment in the United States, led by Senator Albert Fall, of New Mexico, kept the agitation going on, and the State Department then demanded that the Mexican Government reimburse Mr. Jenkins’ friends. The Mexican Government’s reply was very unexpected. Instead of sympathizing with Mr. Jenkins, the Mexican Government proceeded to arrest a Señor Mestre, who had arranged Mr. Jenkins’ so-called rescue, and charged him with complicity in the kidnaping. Mexico further charged that Jenkins himself had hidden out on orders of the United States Government in order to provoke an international incident.

Mexican newspapers began charging that Jenkins owed the Mexican Government 200,000 pesos of revenue.

On November 15, 1919, Gov. Alfonso Cabrera, of the State of Puebla, arrested Jenkins. On November 21 Jenkins went to the Puebla jail.

The tension between the two countries mounted. United States newspapers claimed that the bandits were followers of Felip Diaz.

Mr. George Summerlin, American chargé d'affaires in Mexico City, demanded Jenkins' immediate release. In a sharply worded note to President Carranza the United States Government informed Mexico that it was "surprised and incensed." Secretary Lansing made it clear that holding Jenkins would precipitate a break. There were estimates of the War Department, published in the papers at that time, that 450,000 troops would be needed in case of war.

In Congress Senator Fall introduced a resolution to break relations with Mexico. A Senate subcommittee, investigating Mexican-United States relations, appointed Senator Fall as one of two Senators to confer with President Wilson about the Jenkins affair.

I think that is quite a historic incident. That was when Senator Fall went as chairman of this committee to call upon the President. Senator Fall said that the kidnaping was "an affront to the United States."

Meanwhile the Mexican Government was having its say. Mr. Jenkins, Mexico claimed, paid money to his abductors to assist them in overthrowing the Carranza government. In a public statement Governor Cabrera revealed that Jenkins did not need to languish in jail—where he was reported to be receiving friends and conducting his business in a large office in the prison. Jenkins, said Cabrera, insisted upon remaining in prison when he could ask for bail at any time and go free. However, Jenkins said that he refused to give bail for 1 cent.

When he was interviewed by one reporter for the New York Times, Jenkins admitted that he wanted to see Mexico straightened out. When asked if it were true that he had met with Senator Fall in New York shortly before the "kidnaping," Jenkins replied that that was his own business.

As national tempers arose to the boiling point Mr. Jenkins was released. One J. Salter Hansen, it was reported, had paid his bail. Jenkins was indignant about this, and immediately sought reimprisonment; and the payment of this bail by Hansen, it was charged, was neither sanctioned by Jenkins nor by the State Department. Secretary Lansing said, "the Government has never thought of changing the policy of Jenkins in refusing bail."

There was a lot of inquiry as to who Mr. Hansen was. The newspapers were full of it. He was a friend of Cabrera; he had conspired with Cabrera in paying bail; he was a friend of Carranza for whom he had tried to negotiate a loan of money from J. P. Morgan. There were all these stories, but his own story was that he had paid the bail to avoid war between the two countries; and now, said the Mexican Government, all ground for hard feeling between the countries was gone.

But Senator Fall, in the Congressional Record, protested in the Senate. He said that the United States Government had once more issued an ultimatum only to abandon its position. He announced the formation of a subcommittee to investigate the possibility, he said, that Lansing or Wilson, in collusion with Mexico, had furnished Jenkins' bail. Mr. Lansing and President Wilson termed the story ridiculous.

In the Middle Ages they used to have wars with names. I suppose that if we had had a war at that time it would have been referred to as the War of Jenkins' Bail. But it did not come to pass.

The Mexican newspaper, *Excelsior*, reported that charges of sedition would be filed against Jenkins for his alleged delivery of arms and ammunition to his abductors, and the case went to the Mexican Federal court.

On January 31, 1920, Governor Cabrera and Julio Mitchell, attorney general for the State of Puebla, arrived in Mexico City. During the next 10 months the case dragged on with intermittent moves by the Mexican Government to expel Jenkins as an undesirable alien and seize his property, because of his alleged dealings with rebels.

The testimony seemed to show that the payment of Jenkins' bail was, in fact, arranged by officials or exofficials of the Mexican Government. Evidence was also presented to prove that Jenkins was in the United States a month before his "kidnaping" where, according to the attorney general of Puebla, he conspired with a group of interventionists.

One Brocopia Palacios, described as a rebel colonel, second in command to bandit leader Federice Cordoba, stated that he had carried letters from Cordoba to Jenkins for the purpose of arranging the details of the abduction of Jenkins by Cordoba.

On October 6, 1920, a news story appeared in Washington to the effect that Mr. Jenkins had sent his family to the United States and was selling his Mexican holdings preparatory to quitting the country.

However, on December 5 of the same year, after the assassination of President Carranza, the case came to a sudden close. The superior court in Mexico City dismissed all charges against Jenkins and ordered his complete freedom and the return of bail furnished by Hansen.

Mr. Jenkins then kept out of the newspapers until September of 1925. At that time his life was reported threatened by members of the Mexican Agrarian movement. There was then no news about Mr. Jenkins until June of 1934, when, described as the former United States Consul at Puebla and owner of the Atencingo sugar central, he was officially charged by the Mexican Ministry of Finance with having evaded taxes on alcohol. The finance ministry alleged that invoices carrying sales of alcohol had been carried in United States Consulate envelopes for which diplomatic immunity from inspection was claimed.

Six months later there was another news item to the effect that Jenkins was reported to be facing a week-end stay in the Puebla jail on similar charges.

Mr. Jenkins next came into public observation in 1937, when Cardenas was president of Mexico.

On June 15, 1937, it was reported that the Mexican Agrarian Department had sent a group of engineers to survey Jenkins' estate from Atlixco in the State of Puebla southwest to the border of the State of Morelos. This included rich sugarcane- and rice-producing lands, also sugar mills, valued at \$5,000,000. They were slated for distribution among peasants of 50 villages following instructions of Cardenas, who was acting on complaints of the peasants or peons there.

The New York Times of that date said:

It is recalled that Mr. Jenkins time and again has been in trouble in Mexico in the last decade. First, he was kidnaped by rebels on October 19, 1919, and was

thus a cause of serious strain between Mexico and the United States. Recently during a trip President Cardenas made to the region peons complained he was paying wages much lower than the minimum fixed by labor-law regulations.

I do not know what the minimum labor wage in Mexico is. I assume it is quite low. But Mr. Jenkins did not pay even that, and it is Mr. Jenkins who has now acquired two-thirds of all the territory that is going to be benefited by this treaty. It is that man who is going to be called upon to give employment to a number of Mexicans. I do not think that is going to advance our good-neighbor policy very much unless Mr. Jenkins has considerably reformed.

On June 27, 1937, a Mexican Government commission began the actual division of Jenkins' land, the first of it, totaling 100,000 acres. This time the newspaper observed:

Mr. Jenkins has held these lands for many years, having obtained them by foreclosure of mortgages.

This Senate did a very fine public service in 1920, as Senator Johnson will recall, when it rejected this very same concession regarding this 1,300 square miles of land, and I remember that both Senator Johnson and Senator Phelan, of California, protested and blocked a sale that was to be made by Mr. Chandler and his syndicate to a Japanese syndicate. That territory has always been under scrutiny by the Senate.

I urge seriously, before you go into this treaty, that in executive session this committee ask the State Department for the dossier on Mr. Jenkins; that it ask the F. B. I. if they have made any recent investigations of Mr. Jenkins' activities; that you ask if the intercepts of the censorship might reveal anything. I think this committee, with its great powers—and this committee is the highest court to which an aggrieved people can appeal—should investigate this matter. We ask that with the great investigatory powers you have you continue to protect California as California was protected in instances in the past when this vast domain was being boosted by those who would exploit Mexico rather than those who would carry out a durable good-neighbor policy.

Senator WHITE. You base Mr. Jenkins' interest in this land on the letter of Mr. Chandler?

Mr. KENNY. Yes, sir.

Senator WHITE. Is there any other evidence of that interest of Mr. Jenkins at this time?

Mr. KENNY. This is the only documentary evidence there is. That information I believe can readily be obtained by this committee. I, unfortunately, have not the power of subpoena in this matter. You gentlemen have.

While Mr. Chandler and I have never been friendly politically, I believe him to be an honorable man; I believe him to have written the truth when he wrote me this letter.

Senator McFARLAND. Where is Mr. Jenkins now?

Mr. KENNY. I assume he is in Mexico.

Senator McFARLAND. Is he a Mexican citizen now?

Mr. KENNY. At one time the newspapers refer to him as a Mexican citizen; at other times he is referred to as an American citizen. I have

no way of ascertaining the fact. It would require inquiry in Mexico.

Senator McFARLAND. If he is an American citizen, do you not suppose that when he develops these lands the Mexican Government will come along and take them, as it has in other instances? You would not know that, of course.

Mr. KENNY. I cannot say for sure. I would say that Mr. Jenkins apparently has excellent connections with the Mexican Government.

Senator MILLIKIN. Mr. Chairman——

Senator WILEY (presiding). Senator Millikin.

Senator MILLIKIN. Do you know when Mr. Jenkins ceased his official connection with the Government of the United States?

Mr. KENNY. Yes. That was on November 30, 1930.

Senator MILLIKIN. So far as you know, he has had no official connection with the Government since?

Mr. KENNY. I believe that to be the case.

Senator MILLIKIN. Is there any reason to believe, from the data you have assembled, or otherwise from your own knowledge, that Mr. Jenkins maintains any extraordinarily close relationship to the State Department at this time or during the time that this treaty was negotiated?

Mr. KENNY. As I say, I think that this Senate, with the vigilance that it has exercised in the past, if it investigates the matter can get some very interesting answers to that question. I cannot give the answer.

Senator MILLIKIN. Your answer is that you suggest it be looked into?

Mr. KENNY. That is precisely it, Senator.

Senator DOWNEY. If I may ask one question——

Senator WILEY. Senator Downey.

Senator DOWNEY. I had heard something about this transaction. I heard the statement made that the transaction between the Chandler interests and Mr. Jenkins was not to become finally complete until the approval of this treaty. Is there anything of that nature indicated one way or the other in that letter?

Mr. KENNY. No, there is not. Mr. Chandler's letter says it has finally been disposed of.

Senator DOWNEY. It would indicate a completed transaction?

Mr. KENNY. Yes; for \$360,000.

Senator WILEY. You do not pretend by anything you have said that there is any evidence to connect the negotiations of this treaty on behalf of our Government with Jenkins; there is nothing to that effect in your testimony, is there?

Mr. KENNY. Nothing, except that Mr. Jenkins made his purchase at the time the treaty was being negotiated.

Senator WILEY. Yes; I remember that; but I have no recollection that you inferred that there was any proof, though you thought it might be well to investigate the record?

Mr. KENNY. To see whether or not it is coincidental.
Thank you.

(The letter of Mr. Chandler, referred to by the witness, is, in full, as follows:)

CHANDLER-SHERMAN CORPORATION,
Los Angeles, Calif., September 11, 1944.

MR. ROBERT WALKER KENNY,
Attorney General, State of California,
Los Angeles, Calif.

DEAR SIR: In the thought that you would be interested in the final winding up of the affairs of Colorado River Land Co. which was at one time affiliated with the California-Mexico Land & Cattle Co., we are sending this summary report to you.

The creditors, consisting originally of the largest stockholders of the California-Mexico Land & Cattle Co., through a succession of adverse market conditions and Mexican political revolutions, and because the company had no banking credit of its own, were forced to advance their personal credit in large sums with Los Angeles banks to keep the enterprise going, and it later developed that Chandler-Sherman Corporation was required to advance large sums of cash in order to take out of the Los Angeles banks the obligations of the California-Mexico Land & Cattle Co. stockholders who had permitted the use of their credit.

These transactions were finally all concentrated in the form of a judgment which was obtained by the undersigned corporation against Colorado River Land Co. as of March 11, 1938, in cause of action No. 412,000 in the superior court of Los Angeles County, State of California. The judgment was in the amount of \$3,915,438.48 as of that date and included the net amount of principal then due to the creditors as well as interest thereon from the respective dates of advancement to the date of judgment.

In 1938 the Mexican Government expropriated to agrarian uses approximately 287,000 acres of company lands including substantially all of the developed areas. This was almost a fatal blow to the prospects of the company. Indeed, for about 2 years practically no business whatever was transacted except to prepare and in every manner prosecute claims against the Mexican Government both in Mexico and through the American Mexican Mixed Claims Commission for recoveries on account of this expropriation.

Attached will be found a summarized statement showing the judgment and credits thus far applied against it consisting of amounts of awards made, together with payments thereon, and proceeds realized by sales of the Mexican properties.

The awards were allowed by the American Mexican Claims Commission in 1943 and (with the exception of two very small and as yet unallowed claims which are still pending before the Claims Commission) covered all claims on behalf of the Colorado River Land Co. and its American stockholders against the Mexican Government and/or the fund being paid to the United States Treasury by Mexico to cover the claims of American nationals. The statement shows that thus far only \$838,244.60 has been paid on the awards, and there is, of course, no means of ascertaining now whether the awards will be paid in full, though it is hoped that such will be the case. It is possible that if the principal of all claims having access to this fund is paid in full there might be something left over to pay interest on the claims, but we, while hopeful, are not counting on anything of consequence to be paid on the accrued interest. However, even if the awards and interest thereon are paid in full there will still be a deficit remaining unpaid on the judgment.

In order to bring about a final winding up of this unsuccessful Mexican venture every effort was made to make a sale of the properties, and finally during the year 1944 a deal was concluded with W. O. Jenkins, a resident of Mexico, whereby he took over the remaining property of the Colorado River Land Co. in exchange for certain properties owned by him in the United States. These latter properties have a value which we estimate to be not in excess of \$360,000, and this amount has been credited against the judgment.

It will be seen, therefore, that the affairs of the Colorado River Land Co., so far as the American stockholders are concerned, have now been fully liquidated with the exception of the last-mentioned properties which were taken over from Mr. Jenkins. By the application of the full value of these last properties to the judgment the last interest of the stockholders in the Mexican venture disappears.

Yours very truly,

HARRY CHANDLER.

Financial summary

Amount of judgment, including principal of claims together with interest from date of advancement to date of judgment, as allowed by the Superior Court of Los Angeles County, State of California, on Mar. 11, 1938-----	\$3, 915, 488. 48
Interest on the above judgment (less interest on credits set forth below) at the rate of 7 percent per annum from Mar. 11, 1938, to Aug. 1, 1944-----	1, 633, 447. 00
Total indebtedness as of Aug. 1, 1944-----	5, 548, 935. 48
Credits applied against judgment up to Aug. 1, 1944:	
(a) Proceeds from American portion C-M ranch, Calxico, bought in by the creditors in 1938-----	\$109, 378. 85
(b) Amount of cash thus far received on the awards made by the American Mexican Claims Commission as part payment of the total amount of awards made as a result of expropriation of lands of Colorado River Land Co.-----	838, 244. 60
(c) Appraised value of property taken in exchange from W. O. Jenkins on sale of remaining Mexican property to him-----	360, 000. 00
	1, 307, 622. 95
Deficit as of Aug. 1, 1944-----	4, 241, 312. 53

EXPLANATORY NOTES

1. The total amount of awards thus far made is \$2,941,209.08 of principal plus \$815,413.15 of accumulated interest.

NOTE.—Interest on all awards stopped as of Nov. 19, 1941, by the terms of the settlement arrangements made by the American Government.

It is not possible at this time to estimate how much of these amounts will actually be paid. The amount depends upon the total value of all claims which are finally allowed (the Commission is still in session) and also upon the amount of money which is eventually paid into the fund by the Mexican Government.

If the principal amount exceeds the total which Mexico has agreed to pay in small annual installments (less expense deductions), the payments on principal will then have to be prorated among claimants, and no part of the interest will be paid. If, however, the total claims to be allowed are less in principal amount than the amount which becomes available in the fund, then the principal amount of the claims will be paid in full, and any balance remaining will be applied against interest. We doubt if any interest will be received by the claimants, though; as above stated, it is impossible to make any reliable predictions at this time as to the final outcome.

Bearing in mind that the judgment draws interest at 7 percent and that awards do not draw interest, it will be seen that, irrespective of whether the awards are paid in full of principal and interest, there still will never be enough received from the total company assets to pay the creditors' claims in full.

2. The amounts received and applied against the judgment from the awards and also from the sale of the property to W. O. Jenkins may be subject to a reduction in the amount credited against the judgment if any income-tax liabilities of Colorado River Land Co. or its stockholders (who received the awards and transferred them to the use of creditors) are successfully imposed by Government authority. It is not believed that such taxes will accrue, but it is yet too early to obtain final clearances.

STATEMENT OF FRED J. TOOLE, MEMBER OF THE BOARD OF TRUSTEES OF THE PALO VERDE IRRIGATION DISTRICT OF CALIFORNIA

Mr. TOOLE. My name is Fred J. Toole. I am a member of the board of trustees of the Palo Verde irrigation district, Riverside County, Calif. I have been instructed by the board of trustees of the Palo

Verde irrigation district to represent them in opposition to this treaty.

The Palo Verde irrigation district is the holder of a contract with the United States Government calling for sufficient Colorado River water from the Boulder Dam for irrigation and domestic uses for 104,500 acres of land in the Palo Verde Valley and 16,000 acres of land in an area known as Lower Palo Verde Mesa. I desire to file with the committee, as part of my statement, a copy of this contract with the Secretary of the Interior of the United States. I ask that it be made a part of the record in the same way as if I had read it.

Senator WILEY (presiding). Is that contract similar to other contracts which have been incorporated in the record?

Mr. TOOLE. I imagine it is.

• Mr. SWING. Yes, sir.

Senator WILEY. The contract should go on file.

Mr. TOOLE. We in Palo Verde are now farming over 40,000 acres, largely to winter vegetables, alfalfa, flax, and so forth. We are rapidly putting additional acreage in cultivation. Because of our early filings on the river; and because of our being adjacent to the river, we have first priority on the Colorado River water coming to California. We fear, however, that should this Treaty be ratified, there will not be enough water to fulfill all contracts. Then the fight for water which will develop between the various agencies in California as well as between the various States within the Colorado River Basin will be dangerous to all Colorado River water users, whatever their position as far as priority is concerned. This is likely to place us in a position where the large populated areas will attempt to condemn our water rights for domestic use for their large cities and communities.

Despite the fact that the land in our Valley was taken up by pioneers under the Swamp and Overflow Act in the year 1878 and our filings on the river were made the same year, and despite the fact that we are located on the bank of the River itself, and despite our contract for water with the Interior Department of the United States, we find that by this treaty the State Department contemplates giving to a foreign country 1,500,000 acre-feet of water and makes that gift prior to the rights we now have.

The Colorado River compact, which is the treaty between the States, specifically provides that water rights which were then in existence were to be fully protected. We feel that the early water rights on the Colorado River which were so specifically protected in the compact between the States should be given the same protection in this Treaty with a foreign nation.

For these reasons, we oppose the ratification of this treaty, as now written.

Senator WILEY. The next witness is Dr. Harry W. Forbes.

Mr. SWING. Unfortunately, Mr. Chairman and gentlemen, Dr. Harry W. Forbes is unable to respond to the call of the chairman, for the reason that he has passed to the great beyond. I was with him on the night he passed away. He had come to this city for the purpose of making a statement, and he had prepared his statement. He was a pioneer, farmer, and developer of lands in the Coachella Valley and was president of the Coachella County water district which holds a contract with the United States for water for the supplying

of that desert area from which most of the dates in the United States come.

I ask that his prepared statement be printed as if he had been here himself and had given it.

Senator WILEY. It is so ordered.

Senator JOHNSON of California. You had better read the statement. I am sure I am not familiar with it, and I doubt if any other of the members of the committee present are familiar with it. I would like to have the statement read if it is going to be put into the record. (The statement referred to is as follows:)

STATEMENT OF THE LATE DR. HARRY W. FORBES, PRESIDENT OF COACHELLA VALLEY COUNTY WATER DISTRICT, PREPARED FOR PRESENTATION BEFORE THE SENATE COMMITTEE ON FOREIGN RELATIONS

My name is Harry W. Forbes. I am president of Coachella Valley County water district, a public agency of the State of California, which, with Imperial irrigation district and the city of San Diego, is one of the partners in the All-American Canal project. Our district has, since the year 1918, been struggling for the completion of the All-American Canal to Coachella Valley. Our farmers are in desperate straits for supplemental water. They now depend for irrigation solely on pumping from wells. The water in their underground basin has been steadily receding for over 20 years. In the last few years this lowering has accelerated at an alarming rate and our people fear that they are nearing the complete exhaustion of their local supply.

Nearly 90 miles of the All-American Canal to Coachella Valley have been constructed, and the contractor is now excavating the canal at the entrance to the valley. Within a year a large part of the valley can receive relief. This work has been authorized by the War Production Board on the request of the War Food Administration, in order that the valley may contribute its production of food to the winning of the war.

This district holds the allotment of water which stands lowest in the scale of priorities for Colorado River Water in California. On that account it is tremendously concerned over the threat to its water supply contained in the pending treaty. We are informed by our engineers that this treaty will certainly some day cut off the supply of water which we must immediately and permanently have.

We hold a contract executed by Secretary Ickes, dated October 15, 1934, for delivery of supplementary water and water for new lands from Lake Mead. We cannot understand how the United States can agree to deliver us water and then take it away from us by a treaty after we have agreed to pay the United States for the canal works and have for so many years based our only hope for the rescue of this community from destruction upon our contract. This does not seem right to us.

I hope your committee will see to it that the Government does not let us down.

STATEMENT OF E. F. SCATTERGOOD, ADVISORY ENGINEER, DEPARTMENT OF WATER AND POWER, LOS ANGELES, CALIF.

Mr. SCATTERGOOD. Mr. Chairman and gentlemen, I have a little statement of experience which might go into the record without reading, if that is agreeable.

Senator JOHNSON of California. I would rather that these statements be read.

Senator WILEY. What is your background, Mr. Scattergood?

Mr. SCATTERGOOD. My qualifications and background are that I am a graduate of Rutgers University, 1893; a member of the faculty there, and fellow at Cornell University, 1898 and 1899. I have been head of electricity and experimental engineering at Georgia School of Technology, which is, as you know, the big engineering institution of the South; special engineer for the Huntington Light & Power & Rail-

way interests in Los Angeles, where I went on account of my health in 1901; consulting engineer there from 1906 to 1909, and since that time, up to 1940, the executive head, chief electrical engineer, and general manager of the Los Angeles Bureau of Power & Light, under which direction the bureau has been built up to the institution which it is today. Since 1940 I have been advisory engineer for that concern, retiring from the position of active direction as chief executive head of the bureau.

Senator WILEY. What particular angle of this controversy does your testimony bear on?

Mr. SCATTERGOOD. It bears on the question of the conditions of the river as affected by the development and creation of the Boulder project, first off, and having visualized that, on the effect that the treaty would have on the relationship between operation under the treaty and the water and power contractors who have underwritten Boulder, and then the general effect on the economy of that section, illustrated by a little map.

Mr. SWING. Mr. Scattergood speaks for the power contractors who hold contracts with the United States, which really are repaying the Government the entire cost of the dam.

Senator WILEY. He stated that he wanted to file his statement. Do you prefer to have it read?

Mr. SCATTERGOOD. I was going to present it and file it. I am not going to rehash, but merely refer to what has been said by certain witnesses.

We may best, I think, understand the problem of the Colorado River system by visualizing the condition of the flow of the river in its natural state. That has been discussed by engineers Dowd and Elder, with whose statements I agree; and the significance of which, so far as I refer to them, is that prior to Boulder and the general condition, say, from 1920 to 1935, when Boulder came into action as a storage reservoir, the river was fully appropriated, insofar as it was economically feasible for it to be appropriated, and used for agricultural purposes. In low-water periods it was very much overappropriated, because of the deficiencies, which caused great hardships on farmers both in the United States and in Mexico.

Broadly speaking, the beneficial use of water in the upper basin prior to Boulder storage was 2,500,000 acre-feet. I am not giving exact figures or going into it in detail, but that roughly approximates the amount and will serve the purpose of the committee and the purpose of my reference. The river in the lower basin was used to the extent of something like 3,100,000 acre-feet per year during the period prior to Boulder.

Senator DOWNEY. Within that figure do you include the Mexican use?

Mr. SCATTERGOOD. The Mexican use during that same period was an additional use, Senator. It was usually under 600,000 acre-feet; more accurately, 560,000 acre-feet, with a maximum of something like 750,000 acre-feet, as has been stated here many times.

The effect of the Boulder project and the contribution by California to the usable waters of the Colorado—with reference to that the Senator from east of the Rockies elicited from the Boundary Commissioner the statement that California contributes no water to the river. I might call attention to the fact that neither does eastern

Colorado, east of the Rockies, from whence the Senator comes. It seems that we are more or less on a par with respect to that point. However, there is a very great distinction in one point, and there may be others—I do not know of them—in connection with this question that I am discussing quite generally, but substantially—the right as to quantity; and that is that California cooperated with the Reclamation Bureau, Arthur P. Davis, Director of Reclamation, in initiating the Boulder Canyon project, a project intended to protect the lower basin from the devastating floods that came down from the north, and also to conserve waters that they might be available for beneficial consumptive use in the lower basin in the United States, which were otherwise going to waste. That was in conformity with the Boulder Canyon Project Act as amended; incidentally, with respect to the Adjustment Act, which was an enabling act respecting the basis of repayments of Boulder, but having no significance materially, as I recollect at the moment, respecting the matters that I am referring to.

Contractors for water and power in southern California entered into firm contracts under the terms of the Boulder Canyon Project Act and the Adjustment Act, guaranteeing to the Federal Government—in other words, underwriting—the cost. Under certain options others might contribute toward the funds interned for power and water, but these contracts with public and private agencies in California fully guaranteed and, therefore, did underwrite the investment of the United States in the Boulder Canyon project, including the power plant complete, on terms such that during the 50-year period the United States will receive an equivalent of the total which is put into the plant, approximately \$145,000,000 with interest at the cost of money to the United States, 2½ percent; and in addition to that, there will be paid into the Federal Treasury \$30,000,000 on account of Arizona and Nevada, in which States the project is located. So the project is fully underwritten, and firm contract guaranties of full payment with interest equal to what it will cost the United States for this can be determined from the Treasury Department and others at this time.

The actual interest, however, in order to avoid taking time to discuss that, is on the basis of 3 percent on \$120,000,000, not 2½ percent on \$145,000,000; but the amount of interest which will be paid will be some \$2,000,000 greater than that of the interest on the total investment, including a \$25,000,000 allowance for flood control, which would be at the cost of the money to the United States.

I wish here, Mr. Chairman and gentlemen, to make reference to certain documents which have been inquired about; to wit, the Adjustment Act, which happens to be bound in as a part of these contracts; the contracts between the city of Los Angeles and the Edison Co. with the Secretary of the Interior for the operation of the Boulder Canyon power plant, those two agencies operating it under the direction of the Secretary of the Interior or his representative at cost, merely as operating agents; then a contract between the city of Los Angeles and its department of water and power and the Secretary of the Interior, called the energy contract, under which the power energy—electric energy—which is allocated and contracted for and paid for whether we use it or not during the 50 years.

I am also filing with you, in the absence of any one of their representatives, so far as I am aware—

The CHAIRMAN. You may file that document; I do not want it printed. We will look into it and see whether it ought to go into the record. But you may file it, and it will be available.

Mr. SCATTERGOOD. A similar corresponding energy contract between the Southern California Edison Co. and the Secretary of the Interior.

The CHAIRMAN. We will be glad to file that. We need the energy, so we will be glad to file that.

Mr. SCATTERGOOD. It will not do any good if you file it, Mr. Chairman, because it is not in storage.

The CHAIRMAN. If you file it here, it will be in storage.

Mr. SCATTERGOOD. The contract was requested by someone previously.

The CHAIRMAN. We will be glad to have it, and we may print it in the record. But I thought that we should first look into it. Maybe we can eliminate some of the immaterial matter.

Mr. SCATTERGOOD. And also the energy contracts, including the contract of the metropolitan water district for 30 percent of the firm energy with the municipalities of Pasadena, Glendale, and Burbank, and with the California Electric Co., are similar with respect to the basis of charges and of payments for energy, which is the point—

The CHAIRMAN. I wonder if you would mind answering a question right there. It is not particularly pertinent at the moment. Have you ever decided the question whether it is cheaper to manufacture electric current by coal and other fuels than it is by water power? There is some argument about that. Every time we have up an electrical project of some kind, there is quite a group that appears here claiming that power can be generated more cheaply by steam than by water. Do not spend any time on it. If you know, just say so; if you do not, we will just reserve it. It is not of great importance now.

Mr. SCATTERGOOD. If you have watched horse races, sometimes one horse is ahead, and another time another horse is ahead. It is a kind of see-saw proposition. When oil was 70 cents a barrel in southern California, steam power was much cheaper than water power. When oil is \$1.25 a barrel, it is more costly than water power delivered in Los Angeles, on account of the proper stand-by.

The CHAIRMAN. Especially when you get Boulder power at rates that are pretty fair? They are, are they not? The Secretary is pretty liberal on the rates?

Mr. SCATTERGOOD. They are pretty liberal on the charges that go into the rates.

The CHAIRMAN. Well, you tolerate them?

Mr. SCATTERGOOD. Yes, sir; I have no complaint whatever. The Adjustment Act made it possible to adjust the rates on a basis such as I have spoken of. Before it was not easy to do that.

The CHAIRMAN. Would you mind answering another question? I dislike interrupting you and butting in when I have not heard all your testimony. Can you tell me how many acre-feet per year are released at Boulder on account of the generation of power? I have sought to get that, but I have never been able to get it from any of the witnesses. Do you know.

Mr. SCATTERGOOD. That varies every year. It is different every year.

The CHAIRMAN. Of course. I know that you do not use the same number of gallons every year. But about how many?

Mr. SCATTERGOOD. It varies from 10,000,000 up to 13 or 14 million acre-feet.

The CHAIRMAN. That is released at Boulder and goes down the river; is that right?

Mr. SCATTERGOOD. Under present conditions.

The CHAIRMAN. That is what I am talking about. I am not talking about imaginary conditions that may happen 50 years from now.

Mr. SCATTERGOOD. Sometimes it is must less than 10,000,000.

The CHAIRMAN. But there are used up at Boulder from 10,000,000 to 14,000,000 acre-feet of water each year to generate power. That does not get on the land unless it gets on the land below Boulder Dam?

Mr. SCATTERGOOD. May I amend that to say from 8,500,000 to 14,000,000 acre-feet? It will be more accurate, on account of the low water.

The CHAIRMAN. All right; from 8,500,000 to 14,000,000. Go ahead.

Mr. SCATTERGOOD. I wish also to file a copy of this statement at the same time. We are through with that part.

Now, picturing the river as of the future, on the supposition for the moment that complete development has taken place, in accordance with that contemplated, that may take place under the compact in the upper basin, to wit, the consumptive beneficial use of 7,500,000 acre-feet, and on the long-term average flow in the river—total flow in the river, regardless of where it is taken out, over and above the losses in the natural channels, but not including the existing two or three reservoirs which are a part of the beneficial, consumptive use—there would be appearing down at the tailrace of Boulder—that is in the future, Mr. Chairman, when complete development may have taken place in the upper basin under the compact limitation, and this average is over a long-term period as determined by the Reclamation Bureau—there would be discharged from Boulder about 9,900,000 acre-feet on an average.

Of course, you cannot conserve all of that water; therefore, there would be something less than that naturally appear. Of course, the years that are typical, on which economical, feasible developments must be faced, are low periods, like the period 1931 to 1940, or lower, or perhaps not quite so subnormal. But I am speaking of the average year and average conditions. Boulder's capacity is such that under those conditions there may be conserved in the Boulder Reservoir the total amount of the surplus waters and such of the firm water as might be there, in which the lower basin is concerned.

Senator MILLIKIN. Mr. Chairman, may I ask a question just for the sake of the record?

The CHAIRMAN. Yes, Senator Millikin.

Senator MILLIKIN. What is the capacity of the reservoir behind Boulder Dam?

Mr. SCATTERGOOD. Approximately 32,000,000 acre-feet.

Senator MILLIKIN. How much of the storage capacity of the dam has been allocated to the power purpose?

Mr. SCATTERGOOD. The provisions are that the reservoir capacity shall be used first for flood control; second, from the standpoint of consideration of the domestic and agricultural uses and irrigation; and then, consistent with those requirements, the whole reservoir is to be devoted to the best adjustment of its use for maximum inherent

worth for power. It is the whole reservoir, sir; there is no special part of it set aside.

Senator MILLIKIN. It could be said, then, that there was no power capacity built into the reservoir? Would that be correct?

Mr. SCATTERGOOD. Not independently, at all. Those functions are a combined use, and in that order of priority.

Senator MILLIKIN. Were there any footage estimates, one purpose as distinguished from another?

Mr. SCATTERGOOD. We have made studies. I would have to say yes with reservations as to their being specifically determined, because the conditions change every year under the formula that is written into the act that I referred to.

Senator MILLIKIN. Could you give that to us roughly?

Mr. SCATTERGOOD. There are no footages specified in the act. The understanding is that there may be required 9,000,000 acre-feet for flood control, and the reservoir must be below the emergency spillway by an amount equivalent to that, if the indications are such, in the judgment of the Secretary and his organizations in the Interior, as to make it necessary. As a matter of fact, we have not been pulling it down that much during recent years, because they have not even been normal years, and we may have one or two or a few of them; but not since Boulder has there been what you would term a high year at all.

Further than that, there is no determination. There is the idea that there should not be a minimum head of less than 420 feet, which would leave in the reservoir an amount of water—I thought I had that exactly, but it is something like six or seven million acre-feet.

Senator MILLIKIN. You are aware of the fact that the compact subordinates the development of electric energy to other uses, are you not?

Mr. SCATTERGOOD. I am aware that the Boulder Canyon project does, and I have just so testified, Senator.

Senator MILLIKIN. I am speaking of the compact.

Mr. SCATTERGOOD. I do not recall that it does; possibly it does.

Senator MILLIKIN. Well, the compact will speak for itself, but it does suggest a subordinate development of electrical energy to other uses.

Mr. SCATTERGOOD. Under those conditions of an assumed development in the upper basin and an assumed average year as determined over a long period of time by the Bureau of Reclamation, Boulder would be conserving 5,500,000 acre-feet of water per annum and making it available for practical, economical use in the lower basin of the Colorado River in the United States over and above the 3,100,000 that was being used from the unregulated river. In other words, Boulder contributes to the possibilities of the river to the extent of something like two and one-half times the water for economical, feasible use in the lower basin that was economically feasible from the unregulated river, in addition, also, to what was used from the unregulated river by Mexico; and it amounts to an increase of over 50 percent of the economically feasible use of water in the whole Colorado River system.

Now, the Boulder Canyon project made possible the compact—the compact did not make the Boulder Canyon project possible—with a

distinction, possibly, of approach, which gives to the upper basin the advantage of protection and for use at its convenience of up to 7,500,000 acre-feet per year.

The CHAIRMAN. May I ask you a question right there?

Mr. SCATTERGOOD. Yes; surely.

The CHAIRMAN. A good deal of testimony has been adduced here that ultimately it is expected that the upper basin and the lower basin will use all this water for agricultural and domestic purposes, and so on. If that should ever occur, you would not get much water, would you, to manufacture your electricity?

Mr. SCATTERGOOD. We would get all that goes through the Boulder Canyon project.

The CHAIRMAN. All that would go on down the river.

Mr. SCATTERGOOD. Under existing conditions, all that comes down and is available in the main stream of the river for use in the lower basin.

The CHAIRMAN. If the upper basin utilized all of its possibilities, it would take out 7,500,000 acre-feet, would it not?

Mr. SCATTERGOOD. Provided it adjusted itself, through the installation of storage, so as to let down a minimum of 75,000,000, or exactly 75,000,000, acre-feet each consecutive 10-year period to the lower basin; yes, sir.

Senator McFARLAND. If this water goes on through to Mexico, you would get the benefit of it for power, would you not? Or your company would?

Mr. SCATTERGOOD. Senator, we want to get through. Will you wait until I come to that, if you will be so kind? Then I would be glad to answer. It will be answered. I will be glad to answer all these questions. If we have plenty of time—and that is up to the committee—I will come back this afternoon.

Furthermore, the Boulder Canyon project made possible a provision obligating the upper basin to let down 75,000,000 acre-feet in 10-year consecutive periods, instead of what otherwise would have been necessary, to wit, 7,500,000 acre-feet every year—a rigid provision. This, of course, eases the problem of the upper basin very materially. Without Boulder it would be clearly necessary to let down the allotted amount every year, as otherwise there would be no protection whatever to users from the main stream of the river in the lower basin.

It seems clear that under future conditions of complete development, all of the surplus waters of the basin will be conserved at Boulder, available for use exclusively within the United States under the Boulder Canyon Project Act; and it appears that with the Davis project established, the waters passing the boundary meantime—that is, before complete development in the United States in the whole basin—can be so controlled as to protect against permanent beneficial use by Mexico. That question has been asked many times, and I am endeavoring to show the picture so as to make it clear. If Boulder is capable of conserving—and it is in its capacity—all of the surplus waters and all of the other waters of the main stream that would come down when the upper basin is completely developed, then it is true that those waters would be conserved; and it is also true that with Davis constructed—Davis is an auxiliary of Boulder and aids in the regulation of water discharged from Boulder—the water could be so con-

trolled that Mexico could not develop any permanent use, assuming that there is any legal necessity for such protection meantime, and assuming further that the Federal departments do not continue to order water let down in furtherance of increased beneficial use on the part of Mexico. It has been partly testified to that that has been done from time to time. On several occasions—and this has not been testified to—we have let down larger quantities of water in the middle of the summer merely to raise the river surface and enable diversions into the Mexican canal—the Alamo canal—for Mexico, the great bulk, 8,000,000 acre-feet or so, or whatever it might be—about 8,000 second-feet, I mean—going on to the Gulf. That was to the detriment of the power contractors who wanted the water conserved in Boulder and certainly had a right to have it conserved in Boulder for winter use, and not have an over amount let down in the summertime for the purpose of raising the river. That was not for purposes of irrigation; it was merely a physical defect with respect to irrigation.

It appears further that unless the provisions of the Boulder Canyon Project Act are to be disregarded—on which the contractors who are paying for the project have depended—and those contracts for water uses also are breached, then the grant of excess firm water to Mexico under the proposed treaty, should it be ratified, cannot come from surplus waters so conserved in the Boulder project but must come from some other source.

The provisions of the treaty, if ratified, would seriously injure, financially and through reduction in available electrical energy, the power contractors who have entered into firm contracts guaranteeing to pay—underwriting, as I have said—the whole cost of the project.

The delivery of 1,500,000 acre-feet of guaranteed water yearly to Mexico, plus the additional water she would receive during protracted periods of low yearly run-off from the Colorado River, because it is guaranteed water, would result in increasing the draw-down in the Boulder Reservoir—this is in answer to your question, Senator—and in like manner decreasing the power head and hence the amount of electrical energy available from the project. That amounts to the very substantial sum of approximately 900,000,000 kilowatt-hours a year during such a period as the low period from 1931 to 1940, and with the upper basin fully developed and we operating on the future basis of operation.

Senator McFARLAND. That is the only real interest your companies have in this development—the financial interest?

Mr. SCATTERGOOD. It is one of them.

Senator McFARLAND. Outside of the power, that is the only thing you are interested in, as I understand it, is it not?

Mr. SCATTERGOOD. Power and the way the water passes through. We under the Boulder Canyon Project Act contracted for power, and the terms of the act were expected to be carried out by the power contractors. If you give Mexico a large amount of water that is conserved in the Boulder project, it upsets the economy of the situation very definitely.

Senator McFARLAND. You have no interest in any other power except the Boulder power, have you?

Mr. SCATTERGOOD. Yes; we have a general interest in the development of the Colorado River power plants.

Senator McFARLAND. You have no contract in any other plant?

Mr. SCATTERGOOD. No; we have no exact actual contract as yet.

Senator McFARLAND. Just to the extent that this treaty might reduce your revenue from Boulder power; that is the only direct interest you have in it?

Mr. SCATTERGOOD. Well, I am glad that you are thinking here in terms of contracts definitely, but I would say absolutely no. As a public institution, the power bureau of the city of Los Angeles entered into these power contracts that Boulder might be financed and built. We have struggled with it and got it under conditions so that the cost to us has been more, but on the whole will not be more, and perhaps less than steam power would cost, in order that there might be flood protection and conservation of water for the good of the country tributary to the city of Los Angeles and that there might be domestic water for the Los Angeles metropolitan area. We have a direct interest in it as a community institution, but not as a power contractor, you may say, except that the Davis power, which will be available, and the Davis project will very greatly affect this water condition. It is auxiliary to Boulder and was contemplated when Boulder was built, and the power contracts were entered into.

Senator McFARLAND. As I understand it, the Davis project will help you at Boulder, will it not?

Mr. SCATTERGOOD. If it is operated in such a way that it will help; yes, sir. It might be operated in such a way that it will be more of a detriment than a help in the water problem. But the expectation is that it will be operated in such a way that it will help.

The Boulder project has been authorized by the Congress and the first appropriations made. I now want to make reference to the fact that under the provisions of the treaty 42 percent of the capacity of Davis would have to be devoted to the use of Mexico in seasonal regulations. The power contractors to be—the electric-power utilities of the area—and the power consumers of the area are directly interested. We do not think that if 42 percent of that storage is devoted to Mexico, the American power users should pay for it. Mexico should pay for it, to that extent, at least; and also in the corresponding degree should pay for the operation and maintenance cost.

Senator McFARLAND. Of course, you do not have any contracts yet for Davis power, do you?

Mr. SCATTERGOOD. No; we do not.

Senator McFARLAND. You just hope to have?

Mr. SCATTERGOOD. We suppose, on that question, that it would go to Arizona; but it seems it is more apt not to.

Senator McFARLAND. Where do you think it is apt to go?

Mr. SCATTERGOOD. Wherever the market offers itself, I presume.

Senator McFARLAND. We were told that it would be used largely in Arizona when it is justified, so you are correct in that.

Mr. SCATTERGOOD. If Arizona wants it, it may have it, as far as we are concerned.

Senator McFARLAND. I thank you. I am glad to hear it.

Mr. SCATTERGOOD. I am not standing here as one simply interested in a specific power contract or all of the power contracts.

Senator McFARLAND. I did not mean to imply that, Mr. Scattergood. Pardon me for interrupting you.

Mr. SCATTERGOOD. We are interested in the power users.

Senator McFARLAND. I am not trying to detract from any patriotic interest that you might have in any community or in the United States; all I was trying to bring out was what your direct interest is in opposing the treaty.

Mr. SCATTERGOOD. Yes. I am advisory engineer to the department of water and power. The department of water and power of the city of Los Angeles, which is the only department distributing water in Los Angeles to the consumers, has a 70-odd-percent interest in the metropolitan aqueduct that you heard about this morning. So the department is interested in water as well as in power.

I am on my feet primarily as a witness to bring out points regarding power and incidentally the effect with respect to water, in connection with the authority that would be granted by the treaty to the Boundary Commission to develop power with funds necessarily appropriated by the Congress but without any regulatory control by the Congress as to where the power revenues would go, where the power would be sold, or at what rates it would be sold. It might be that the power revenues would be used to build other projects or used to disturb proper, legitimate economic conditions, greatly to the jeopardy of existing bona fide electric utilities, whether publicly owned or privately owned, and in this respect perhaps more publicly owned than privately owned.

Section 19 of the treaty leaves it wide open for the Commission, with the approval of their respective State departments, to enter into any kind of agreement governing the disposition of the electric power so disposed of

In the interest of time, I shall not discuss that further.

I have made the point verbally that power contractors joined with the representatives of the seven States at El Paso in June 1942 in agreeing to an allocation to Mexico of water based on previous use from an unregulated river, despite the fact that a large portion of such water necessarily would come from water conserved within the United States. This was agreed to with the expectancy that the property rights of the Imperial Valley district would be considered and respected, including their power rights, but we must necessarily protest against this treaty which would impair the rights of power contractors and power users and result in great damage to them.

California and the great majority of water users in the Colorado River Basin have not interfered in any manner with the years of investigation on the part of the Boundary Commissioner of conditions in the lower Rio Grande, nor in any manner interfered with the progress of understandings between the United States and Mexico respecting the waters of the lower Rio Grande. It is impossible for us to understand the attitude of Texas representatives who undertake to combat and oppose the interests of water users in the Colorado River Basin who are seeking to protect their rights in that basin against an allowance of water to Mexico in excess of the previous beneficial use, seriously curtailing any land development and the development of urban centers essential to the best interests of the basin.

Neither can we understand the attitude of our State Department in its lack of cooperation with the people of the Colorado River Basin who have so earnestly, for generations, planned to develop and utilize

to the best advantage the very limited waters available for such purposes. We realize full well, as it seems the State Department must know, that the great bulk of the additional waters that would be thus granted to Mexico would result in adding to the inherent worth of great concentrated land holdings in Mexico, and not to Mexico or in any considerable numbers to individual citizens of Mexico.

The analyses of our engineers of long experience with water in the West indicate that the return flow of the future will be as much as indicated specifically by Mr. Elder. This is corroborated by expressions of many water users in central Arizona, where there are destined to be great areas of land forever unwatered, making it inevitable that repeated recovery through pumping in Arizona will result and that the return flow will be something such as Mr. Elder has indicated.

Also, as testified, it is inevitable that more than 1,500,000 acre-feet per year would result to Mexico, and certainly not less than 1,750,000 acre-feet.

Using the metropolitan area of Los Angeles, as indicated on the map in colors, merely as an illustration—and in making reference to that metropolitan area I do so with some hesitancy—the uses for urban purposes and land purposes throughout the Colorado River Basin are well illustrated by what I might say regarding conditions there. For that reason, having these data of an existing developed or partially developed area, I make reference to them to show the effect, directly or indirectly, through provisions of a treaty that are not at all fully worked out, of 1,000,000 acre-feet of water per year.

The total area shown on the map in color, including the hatching, is 3,900 square miles, extending inland some 75 or 80 miles from the Pacific Ocean.

The colors represent built-up areas. The darker colors represent the citrus areas. Those more spotted represent the areas which are devoted to intensive vegetable production and production of deciduous fruits. The yellow areas represent valley land which has no water for agricultural purposes.

Of the amount of 3,900 square miles, that which is habitable is some 3,000 square miles; and of that, some 700 square miles is useful for intensive agricultural purposes—citrus or deciduous fruits or vegetables.

Now, the production of that area, which had a population of approximately 3,000,000 people in 1940—and I am not referring to war conditions but to the conditions back in 1940, when there was some preparedness effect, but not so great as—only a fraction of—the effect on production the war has had—was \$3,400,000,000 worth of agricultural products, oil, some mining other than oil, and industrial production. Half of that production, roughly speaking, was normal, and the other half, more or less, was transformed over to preparedness purposes; but the plants were not materially abnormal at that time, except as to the hours of work. Shortly after the war—a short period after the war—it may be expected that the production and employment of 1940 will prevail and continue. The production of \$3,400,000,000 worth of products yearly means a very heavy transportation of material and equipment from all over the United States. It has been shown to Congress through its committees on several occasions in the last 20 years what that amounts to.

When we borrowed temporarily money from the R. F. C. to build a transmission line—\$22,800,000—we showed that over 60 percent of the material would be transported by the transcontinental railroads and would come from all over the United States and that less than 40 percent would be spent in California for materials and labor. So you can judge for yourselves what portion of that amount of production results from products that come from all over the United States.

I am showing that the whole United States is interested in the question of whether such serious curtailment should occur in the basin, especially in the Los Angeles metropolitan area.

Taxes paid for 1940 to the Federal Government were less than in 1939, but with sixty-odd million out of a total of \$70,000,000 for southern California as a whole. Now, the curtailment of a million acre-feet of water in the ultimate development in the near future—the lifetime of our children—undoubtedly means curtailment in urban population, if it is divided more or less equally, of over 3,000,000 people, the exact equivalent of that whole area in 1940, and 200,000 to 300,000 acres of land, according to where they are located. That might be the curtailment and would be the curtailment in urban lands in various States and not in the Los Angeles metropolitan area, except that we would be hit no doubt very hard, as has been explained to you here, in that area, and in San Diego perhaps worse, for reasons that I shall not repeat.

You could go down to Mexico, if international relations require something more than a fair, proper, and precedented allotment of water from the Colorado River to Mexico, and build a great reclamation project in one of various places where there is land and water and want of money and enterprise, perhaps. You could build and give Mexico an equivalent of this, or perform some such act, that would be of real value to Mexico and to the people of Mexico and not to large land holdings, and do a really gracious thing for Mexico with the benefits to our manufacturers and mining interests and railroads, plus sixty-odd-million dollars of income tax that would come to the United States under the 1940 conditions. You could have that amount of benefits in the United States in 1 year from having that development, which could not take place because of the curtailment of water, which is equivalent to the whole metropolitan area of Los Angeles, as shown on the map as of today—3,000,000 people and from 200,000 to 300,000 acres of rich lands.

I thank you very much.

Senator LA FOLLETTE (presiding). Thank you very much, Mr. Scattergood. The committee will take a recess until 2:30.

(At 12:40 p. m. a recess was taken until 2:30 p. m. of the same day.)

AFTER RECESS

The recess having expired, the committee reconvened at 2:30 p. m. The CHAIRMAN. The committee will come to order. Next in order on the list is the State of Colorado. The Colorado representatives have approached me and requested that Mr. Lawson be put back on the stand for a short period on some engineering matter that developed along the line of their discussion, that would help them make the presentation; and I just wonder if there is any objection to doing that.

Arizona was going to be the first to go forward, but they were not ready, so we have had to postpone hearing them until tomorrow. Two Arizona representatives opposing the treaty wanted to be heard, and we shall be glad to hear them.

FURTHER STATEMENT BY L. M. LAWSON, AMERICAN COMMISSIONER, INTERNATIONAL BOUNDARY COMMISSION, UNITED STATES AND MEXICO

The CHAIRMAN. All right, Mr. Lawson. What particular aspect of the matter did you want to discuss?

Mr. LAWSON. I have been requested, Mr. Chairman, to discuss briefly several features in connection with the lower Colorado River that are pertinent to the treaty and to the discussion and to bring out in not too long a time some of the facts that I think are interesting, for the information of the committee.

The first concerns what is known as the Mead offer of 1929, the so-called Mead offer of water from the Colorado River for Mexican use, made in 1929, that is reported in House Document 359, Seventy-first Congress, second session. This offer proposes the delivery—and the offer was made to the Mexican representatives of the Commission—proposing to deliver to Mexico 750,000 acre-feet of water and to add to that amount an additional amount to compensate for the losses in the main canal. [Reading:]

The delivery of water by the United States as here proposed will be conditioned on the construction of Boulder Dam, until which time the present unregulated delivery must continue. The regulated delivery, when it begins, shall be in accordance with a schedule to be hereafter agreed upon, with the understanding that in case of extraordinary drought or serious accident to the storage or diversion works in the United States the amount of water to be delivered to Mexico will be diminished in the same proportion as deliveries in the United States.

It is interesting to note that the Boulder Canyon Project Act was passed in 1928, that this offer made by the Commissioner of Reclamation was made in 1929, and that, as read to you, it presupposed the use of water from Boulder Dam in furnishing Mexico her regulated supply.

This offer, which was stated to amount to 750,000 acre-feet, but which on analysis proves to be a great deal more, was the first or opening offer of the United States. Mexico at that time made a counterproposal in the amount of 3,600,000 acre-feet. If the negotiations thus started had been continued and an agreement had been reached, the amount of water for Mexico would doubtless have been in excess of the Mead offer and less than the Mexican counterproposal. The deliveries under the Mead offer were to be firm water on schedule and were predicated on the construction of Boulder Dam and the All-American Canal.

The Mead offer was in three parts: (a) 750,000 acre-feet to be delivered on schedule, (b) an additional amount to compensate for losses in the main canal, and (c) waste and return flows in the river.

The (a) water was to be delivered at the heads of the laterals of the Alamo Canal, and the (b) water was to compensate for losses in transit from the boundary line to the various laterals. If this loss is taken as 25 percent, there would have to be delivered at the boundary line a total of about 1,000,000 acre-feet. The records of the Imperial

district show that over a period of 10 years the deliveries of water to both the United States and Mexico were about 64 percent of the water actually diverted from the Colorado River, indicating that all losses amounted to 36 percent.

Senator MILLIKIN. Would you mind reading that last statement again as to the loss?

Mr. LAWSON. Yes, sir. The records of the Imperial district show that over a period of 10 years the deliveries of water to both the United States and Mexico were about 64 percent of the water actually diverted from the Colorado River, indicating that all losses amounted to 36 percent.

At this point I should like to say that in connection with my duties on the lower Colorado River with the Bureau of Reclamation in 1904 I actually measured the loss in the main canal, the Alamo, at between 20 and 30 percent, the distance between the heading and a point about 39.5 miles below the heading.

With the clear water now present in the river unquestionably the losses from the seepage in canals have become larger. In view of the foregoing it is estimated that under present conditions there would have to be diverted from the Colorado at Imperial Dam at least 1,000,000 acre-feet to make the delivery of the 750,000 acre-feet at the heads of the Alamo canal laterals and that this figure might easily reach 1,200,000 acre-feet.

The (c) water components of the Mead offer on the wastes and return flows in the river have been estimated as amounting to at least 900,000 acre-feet by engineers of the Bureau of Reclamation. This figure has been concurred in by other prominent engineers but is not agreed to by the engineers for the opponents. The lowest figure testified to in this hearing is 250,000 acre-feet for an average year at the upper boundary line for the return flow component. To this must be added 100,000 acre-feet for desilting and unavoidable wastes at the Imperial Dam, where it must be realized several million acre-feet per annum will be handled and diverted to American users.

The Mead offer did not include the return drainage and waste waters from the Yuma project which are available to Mexico near San Luis Sonora. These waters are estimated to have amounted to 65,000 acre-feet in 1925 and now are in excess of 100,000 acre-feet. Apparently they were to be available to Mexico in the same manner as the return flows which would occur in the river. These waters are to be charged to Mexico under the present treaty and, to make the two offers comparable, should be added to the Mead offer.

It is therefore concluded that the Mead offer would have resulted in the delivery to Mexico of not less than 1,450,000, and perhaps as much as 2,100,000, acre-feet. These quantities are developed as follows: 1,000,000 acre-feet, as a minimum, delivered to the Alamo canal; return flows and wastes in the river, 350,000 acre-feet, as a minimum; plus the San Luis wastes and return flow at the end of the Yuma Valley, a total of 1,450,000 acre-feet.

As a maximum, the deliveries into the Alamo under the Mead offer might easily have been 1,200,000 acre-feet; return flows and waste in the river, 800,000 acre-feet; with the San Luis or the eastern Sonora side contribution of 100,000, making a total of 2,100,000 acre-feet.

If the true result falls between the two estimates, the Mead offer is as large as or in excess of the 1,500,000 acre-feet specified in the present treaty.

Senator DOWNEY. Mr. Chairman, may I ask the witness a question?

Senator JOHNSON of California. Surely.

Senator DOWNEY. Then, Mr. Lawson, you are here positively assuring this committee that Mexico would have just as good and probably a better proposal as embodied in the Mead offer than is present here in the treaty?

Mr. LAWSON. As to the amount of water, Senator.

Senator DOWNEY. Yes; that is right; and then I would assume that if it were satisfactory to all the Colorado River Basin States to base a treaty upon that portion of the Mead offer it would be more than satisfactory to Mexico, would it not?

Mr. LAWSON. That is your assumption, Senator, not mine.

Senator DOWNEY. Oh, it is not your assumption?

Mr. LAWSON. No, sir.

Senator DOWNEY. Why not, Mr. Lawson? You say that the Mead offer will mean just as much or more water to Mexico than is being given by this treaty?

Mr. LAWSON. As to the amount of water; yes, sir.

Senator DOWNEY. That is all I am talking about, here.

Mr. LAWSON. Yes, sir.

Senator DOWNEY. Then is it not your judgment that Mexico would gladly take a treaty embodying the terms of the Mead offer so far as the amount of water is concerned?

Mr. LAWSON. In my judgment they would not. Having been connected with the negotiations of the treaty and realizing that at the time they knew, in 1929, just what was offered, and they refused to accept it then, there is no reason to believe that they would accept it now. If Mexico was perfectly satisfied with the Mead offer it would have been accepted at the time.

Senator DOWNEY. In other words, in your opinion Mexico is willing to take a poorer proposal than the Mead offer, because you say that the Mead offer is a better one?

Mr. LAWSON. I cannot speak for what Mexico will accept, or what she will not accept.

Senator DOWNEY. All right.

Mr. LAWSON. I do know that she signed the present treaty.

Senator DOWNEY. All right, then let me ask you this. If the Senate of the United States should make a reservation in this treaty embodying the terms of the Mead proposal rather than the present proposal so far as amount of water going to Mexico is concerned, you are telling this committee that that would be a better proposal for Mexico?

Mr. LAWSON. I have not said so.

Senator DOWNEY. Well, but you did say that it was certainly just as good and would probably give her more water?

Mr. LAWSON. Well—

Senator DOWNEY. Now, wouldn't that be a better proposal if there were a certainty of as much water and a likelihood of more?

Mr. LAWSON. No, Senator.

Senator DOWNEY. Oh, I see. No further questions.

Mr. LAWSON. I should like now to present something relative to the general topography of the Mexicali Valley.

Senator MURDOCK. Mr. Chairman, before the witness goes on, I get about the same idea from your testimony, Mr. Lawson, that Senator Downey did, that you consider that under the Mead offer Mexico would have received as much water as she will under the proposed treaty, is that what you intended to convey to the committee?

Mr. LAWSON. That's right; but in this matter it is a question of having the other party execute the treaty and not of an ex parte declaration of what we are willing to do. In other words there must be some negotiation.

Senator MURDOCK. Yes.

Mr. LAWSON. There must be some middle ground, some meeting, for the development of it. Now, we can assume that as far as Mexico is concerned if they had liked the Mead offer they would have accepted it at the time. They did not see fit to do that. As a matter of fact in the negotiations of this treaty Mexico assumed the position that she was entitled to 2,000,000 acre-feet of firm scheduled water.

Senator MURDOCK. In other words, Mexico is intently interested in the quantity of water that she is going to receive; am I right in that?

Mr. LAWSON. Not only quantity, Senator, but in certain regulations of that quantity.

Senator MURDOCK. Well, but I mean, just referring now to the quantity of water, I assume that Mexico is deeply interested in the quantity of water that she will receive under this treaty?

Mr. LAWSON. That is true.

Senator MURDOCK. Now, you tell us that she would have received in your judgment as much water under the Mead proposal as she will under this treaty; am I right in that?

Mr. LAWSON. That is true; and you can appreciate my position in not being able to tell you why Mexico would refuse the Mead offer and accept this present one; that is something beyond me.

Senator JOHNSON of California. Well, tell us why; tell us why.

Mr. LAWSON. I cannot speak for Mexico, Senator.

Senator JOHNSON of California. How?

Mr. LAWSON. I could not speak for Mexico on that point.

Senator JOHNSON of California. Oh; you do not know why, then?

Mr. LAWSON. I could not tell you.

Senator JOHNSON. Well, you just said that if you were to tell us why, we would understand. And now you say you are not permitted to tell us why?

Mr. LAWSON. No, Senator; I did not make any such statement. I tried to explain to the Senator why I could not give Mexico's reason for not accepting the Mead offer, and accepting this final treaty which was concluded last year.

Senator JOHNSON of California. Well, you knew about the negotiations did you not between Mead and Mexico?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. And you would have accepted it?

Mr. LAWSON. On the part of Mexico?

Senator JOHNSON of California. Yes.

Mr. LAWSON. I do not know. I am not representing Mexico; I would not know that.

Senator JOHNSON of California. Well, I did not know whether you represented Mexico or whether you represented Mead or whether you represented the United States. Now, whom did you represent at that time?

Mr. LAWSON. I had no connection whatever with the Mead offer.

Senator JOHNSON of California. Well, were you holding any official position at that time?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. What was it?

Mr. LAWSON. I was American Commissioner of the International Boundary Commission.

Senator JOHNSON of California. Yes; and as American Commissioner of the International Boundary Commission would you have accepted that offer?

Mr. LAWSON. For the United States?

Senator JOHNSON of California. No. I am asking you, as if you were representing the United States; yes.

Mr. LAWSON. I would have accepted any offer that Dr. Mead saw fit to make to Mexico.

Senator JOHNSON of California. You would not take Mead's ipse dixit on the proposition?

Mr. LAWSON. I would take whatever he thought was wise to present.

Senator JOHNSON of California. How?

Mr. LAWSON. I had great respect for Dr. Mead, and I think his offer was what he thought was the proper one to make.

Senator JOHNSON of California. And did you not agree with his representations, therefore?

Mr. LAWSON. Yes, sir; I am citing it, here, I am quoting it. As a matter of fact the present treaty includes some of the exact language that Dr. Mead used in the offer.

Senator JOHNSON of California. And therefore it is satisfactory to you?

Mr. LAWSON. I do not understand what you mean by "satisfactory" to me.

Senator JOHNSON of California. Well, you occupy something of an equivocal position. You are the representative of the United States upon the Boundary Commission?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. And this offer of Mead's was made to you?

Mr. LAWSON. I had no connection with the offer.

Senator JOHNSON of California. And you had nothing to do with it?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. And you did not have anything to do with its acceptance or its rejection?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. Well, what are you talking about, then?

Mr. LAWSON. The Mead offer has figured in the discussion here of a number of witnesses and it represents a previous offer to the Mexican Government of a certain amount of water from the Colorado River.

Senator JOHNSON of California. When was it made?

Mr. LAWSON. In 1929.

Senator JOHNSON of California. And was it made to you?

Mr. LAWSON. No, sir; but it became available to me and to everybody by record, published records to which I have access.

Senator JOHNSON of California. Did you form at the time a desire to accept it?

Mr. LAWSON. I had no occasion to express any opinion.

Senator JOHNSON of California. Why not?

Mr. LAWSON. Because Mead's offer was made without any reference to the International Boundary Commission office.

Senator JOHNSON of California. So you did not consider it, at all?

Mr. LAWSON. I do not understand what you mean by "consider."

Senator JOHNSON of California. Well, I mean just what I say—what the words imply. An offer was made to you by Dr. Mead; you recall that, do you not?

Mr. LAWSON. Senator, no offer was made to me, in 1929. I had no connection with the offer.

Senator JOHNSON of California. Well, to whom was it made?

Mr. LAWSON. The offer was made to Mexico.

Senator JOHNSON of California. And did you have anything to do with the offer at all?

Mr. LAWSON. None whatever.

Senator JOHNSON of California. Did you have anything to do with its acceptance or rejection?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. Well, I suppose that we ought to make a careful note of that, and, having made the careful note of it, let us pass to the next subject.

Senator McFARLAND. Mr. Lawson, the present treaty has these advantages from Mexico's standpoint, does it not? The Mexican treaty has this advantage over the Mead offer, in that it guarantees the delivery of 1,500,000 acre-feet of water, while the Mead offer did not guarantee that amount?

Senator JOHNSON of California. Now, is that so? You are in doubt about it.

Mr. LAWSON. I assume that the Mead offer guaranteed at least——

Senator JOHNSON of California. You assume? You assume that it guaranteed?

Mr. LAWSON. Yes, sir; it guaranteed at least 1,000,000 acre-feet at the head of the Alamo canal, plus all return flow.

Senator McFARLAND. Yes, but what I am getting at is, there was no guaranty of 1,500,000 acre-feet. Now, what you are testifying is that in your opinion as an engineer it is your best judgment that it would have insured the delivery over 1,500,000 acre-feet to Mexico, but the guaranty would not be there, to Mexico?

Mr. LAWSON. That is right.

Senator McFARLAND. And possibly they figure that that guaranty is worth something; that would be one difference, would it not?

Mr. LAWSON. That is a difference; yes, sir.

Senator JOHNSON of California. Well, now, as the Boundary Commissioner of the United States, did you suggest any plan of agreeing to the Mead resolution or the Mead offer, or did you not, or did you pay no attention to it?

Mr. LAWSON. Senator, I had nothing whatever to do with the Mead offer.

Senator JOHNSON of California. Well, I assumed that was so, and I thought that that was what you were trying to tell us, that you had nothing to do with it.

Mr. LAWSON. That is right.

Senator JOHNSON of California. And you are quoting some offer of a man that is dead now, and he cannot respond to it, and you would not accept it for yourself?

Mr. LAWSON. The Mead offer was never presented to the International Boundary Commission for acceptance or rejection.

Senator JOHNSON of California. Nor to anybody in authority, was it?

Mr. LAWSON. Why, I assume so.

Senator JOHNSON of California. Well, it was not presented to the Boundary Commission?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. You are certain of that?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. All right. Now, what next authority would be the proper one for it to go to?

Mr. LAWSON. It was presented to the Mexican section of the International Water Commission, as it existed at that time.

Senator JOHNSON of California. Oh. Did you know whether or not they accepted it?

Mr. LAWSON. I am quite sure that they did not accept.

Senator JOHNSON of California. You are quite sure of it?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. There is some doubt about it?

Mr. LAWSON. No.

Senator JOHNSON of California. You have no doubt about it?

Mr. LAWSON. No.

Senator JOHNSON of California. Have you, there, in writing, nothing that accepted it or rejected it?

Mr. LAWSON. The record is a printed document, Senator, which I do not have with me.

Senator JOHNSON of California. All right.

Mr. LAWSON. It is in the report of the International Water Commission.

Senator JOHNSON of California. Yes.

Senator MURDOCK. Mr. Chairman, may I ask this question: What is the purpose—your purpose, Mr. Lawson, as an engineer and a member of the International Boundary Commission at this time, in presenting to the committee the Mead offer? I assume that you have a purpose, haven't you?

Mr. LAWSON. Yes, Senator.

Senator MURDOCK. Now, I am not a member of the committee, but I think it is only fair as I see it, as a Senator, to have you tell us what your purpose is in calling our attention to the Mead offer?

Mr. LAWSON. It is very simple, Senator.

Senator JOHNSON of California. Well, if it is very simple it can be stated very simply.

Mr. LAWSON. Yes, sir. There has appeared in the testimony on a number of occasions the use of the figures 750,000 acre-feet of water that Mexico was to get.

Senator MURDOCK. That is right.

Mr. LAWSON. And there has been a comparison made that this amount was to be doubled by the present treaty. My purpose then in presenting this data is to call attention to the fact that it was more than 750,000 acre-feet; it would take more water than that under the Mead offer.

Senator JOHNSON of California. That was all?

Mr. LAWSON. That is all.

Senator MURDOCK. Would it be fair to infer from your evidence just offered now in connection with the Mead offer that the Mead offer so far as quantity of water was concerned was a better offer than the present treaty?

The CHAIRMAN. You mean, to Mexico, or to us?

Senator MURDOCK. Yes—a better offer to Mexico, limiting it now only to the quantity of water. In your opinion as an engineer was it a better offer than is contained in the present proposed treaty?

Mr. LAWSON. So far as the quantity of water, only?

Senator MURDOCK. Yes.

Mr. LAWSON. So far as the quantity of water only, it was about the same.

Senator MURDOCK. About the same? Thank you. That is all.

Senator JOHNSON of California. We have been talking about some offer, though.

Senator MURDOCK. Evidently so far as quantity is concerned it is exactly the same.

Senator DOWNEY. Mr. Chairman, I would like to ask one question. But the truth is, Mr. Lawson, that the Mead offer started with a basic figure of 750,000 acre-feet, and there was no guaranty of any kind attached to it? And this offer starts with a basic figure double that amount, of 1,500,000, with a guaranty added. Now, that is true, isn't it?

Mr. LAWSON. Not completely, Senator, because the scheduled delivery, 750,000 acre-feet, was guaranteed in the laterals in the Mexicali Valley, to which must be added the losses at the head of the canal, and in addition to that, now, under the present system, a diversion of that amount of water at the Imperial Dam; so if the Mead offer was to be complied with today, Mexico's water, to produce 750,000 acre-feet in the laterals in Mexico, would be as indicated in the Mead offer itself dependent upon regulation at Boulder Dam, dependent upon its diversion at the Imperial Valley, and its carriage through the All-American Canal to the Mexican lands.

Senator DOWNEY. And, Mr. Lawson, I would judge from your statement that you feel very confident that the present treaty will rigidly restrict Mexico to 1,500,000 acre-feet of water plus, under certain conditions, 200,000 acre-feet of water, and that that is all the cost in acre-feet it will be to the United States to perform this treaty; that is your opinion, isn't it?

Mr. LAWSON. That is my opinion; yes, sir.

Senator DOWNEY. What did you think of Mr. Dowd's statement that in order to deliver 1,700,000 acre-feet of water you would need

about 10 percent more to regulate the flow and the exchange and the distribution?

Mr. LAWSON. I don't think very much of it.

Senator DOWNEY. You do not think so?

Mr. LAWSON. No, sir.

Senator DOWNEY. You do not think that engineers generally regard that there must be a 10 percent allowance for regulation and balance—you do not believe that?

Mr. LAWSON. If you are speaking of losses, engineers will generally admit that it is more than 10 percent.

Senator DOWNEY. More than 10 percent?

Mr. LAWSON. Yes, sir.

Senator DOWNEY. Well, that is what Mr. Dowd's figure was, that additional amount of 1,700,000, Mr. Lawson, although I think he did say 10 to 15 percent above that.

Mr. LAWSON. That is right.

Senator DOWNEY. In order to guard against wind and heat. Well, you agree to that, do you?

Mr. LAWSON. Yes; I agree—

Senator DOWNEY. So that now we are up to almost 2,000,000?

The CHAIRMAN. Wait. Let him answer.

Senator DOWNEY. I beg your pardon, Mr. Chairman.

The CHAIRMAN. I did not understand he had finished.

Senator DOWNEY. So now we are up to 2,000,000 acre-feet under the treaty, are we not?

Mr. LAWSON. No, sir.

Senator DOWNEY. And let me ask you this, Mr. Lawson. Is it your opinion that if this water is saline to such an extent that it takes an unusual amount of water to keep the land clean and leached out of salts, that we will not be compelled under the treaty to deliver additional water for that purpose?

Mr. LAWSON. No, sir.

Senator DOWNEY. Would you agree with Mr. Clayton, that under this treaty Mexico will have to take this water, even though some of it may be brine at certain times?

Mr. LAWSON. I think the treaty provides for a situation where the water can be firmed up with upstream supply to prevent too much salinity. That is the idea of the provision for 375,000 acre-feet being delivered through the All-American Canal.

Senator DOWNEY. The question I am asking you, Mr. Lawson, is this: Assume that some of the water is saline beyond the normal irrigation practices and to such an extent as to constitute a burden upon its use. You still think, nevertheless, that under this treaty Mexico would have no implied guaranty as to the usability of the water?

Mr. LAWSON. There is no such implication there.

Senator DOWNEY. Are you also just as positive that when the expression 1,500,000 acre-feet" is used, it means over-all water and not consumptive use?

Mr. LAWSON. I think, Senator, that the statement in the treaty which limits the amount to Mexico to 1½ million acre-feet is the limit of right that she might have in the waters of the Colorado River.

Senator DOWNEY. But you have not yet answered the question. Is it a million and a half acre-feet of consumptive use, or of water?

Mr. LAWSON. It is a million and a half acre-feet of water.

Senator DOWNEY. Why is the word "water," then, left out of the treaty in every place after the 1,500,000 acre-feet?

Mr. LAWSON. Because, having said it once, there is no use for repetition.

Senator DOWNEY. I will pass you the treaty, open at page 14 to article 10, which is the clause granting the water, and read to you the first allocation:

"A guaranteed annual quantity of 1,500,000 acre-feet to be delivered," and so forth.

You do not see after that 1,500,000 acre-feet the word "water," do you?

Mr. LAWSON. Could it be anything else?

Senator DOWNEY. It could be consumptive use, as it is in the compact, Mr. Lawson.

Mr. LAWSON. Would it not be in there, then?

Senator DOWNEY. In where?

Mr. LAWSON. Would it not say "consumptive use"?

Senator DOWNEY. It should say either "water" or "consumptive use," one thing or the other. But neither is there, is it?

Mr. LAWSON. After all, it seems to me the normal person reading that would supply the word "water," if there was no doubt about it, and not "consumptive use."

Senator DOWNEY. Do you happen to be familiar with the rule that in a grant of this character every construction and doubt is resolved against the grantor? Would that affect your opinion?

Mr. LAWSON. I am an engineer, and that is a legal matter.

Senator DOWNEY. I assume you went over this treaty and approved of it?

Mr. LAWSON. Yes, sir.

Senator DOWNEY. Let me call your attention to the last paragraph of article 10:

In the event of extraordinary drought—

And so forth, the guaranteed quantity of 1,500,000 acre-feet—

will be reduced in the same proportion as consumptive uses in the United States are reduced.

Does not that carry to any reader almost the certainty that we are talking about consumptive use in Mexico?

Mr. LAWSON. If you will permit me, I will read it all, Senator.

Senator DOWNEY. Read it aloud, will you, please.

Mr. LAWSON (reading):

In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet * * * a year, the water allotted to Mexico—

I do not see anything about consumptive use in there. It says "the water."

Senator DOWNEY. It does not say "acre-feet of water" or "consumptive use"?

Mr. LAWSON. No; it clearly says that the water allotted to Mexico under subparagraph (a) of this article will be reduced in the same proportion as consumptive uses in the United States are reduced.

Senator DOWNEY. Do you think that the way "consumptive use" is applied as referring to the United States does not give any indication that the treaty means consumptive use after 1,500,000 acre-feet?

Mr. LAWSON. The wording is a distinct advantage to the United States. It does not use a basis that the water in the United States will be reduced, but on the basis that consumptive use in the United States will be reduced.

Senator DOWNEY. Now, let me ask you this: Assume that there is a priority that is to be reduced in the State of Arizona, a consumptive use of 1,000,000 acre-feet and an over-all use of 1,500,000, and under drought conditions Mexico could have only 1,000,000 acre-feet, which was her consumptive use, when, under this language as you interpret it would you begin to reduce Mexico's allocation of 1,500,000 acre-feet?

Mr. LAWSON. I do not find anything in here in reference to Mexico's consumptive use.

Senator DOWNEY. No. I understand that you do not think it does mean that. But let me ask you this: Do not you, as an engineer, see the impossibility of balancing the consumptive use against an over-all application, a stipulation that as you reduce the consumptive use you must reduce the over-all application? Do you not see the fallacy of that, as an engineer?

Mr. LAWSON. I do not see the fallacy of that paragraph. It is in there, and it expresses to me a distinct advantage to the United States.

Senator DOWNEY. I think it is just the reverse, Mr. Lawson; but, at least, regardless of to whom the advantage goes, do you not see the lack of logic in providing for a reduction of the quantity in Mexico, starting with the over-all use and not with the consumptive use, while in the United States you only start to reduce when you are down to the figure of consumptive use?

Mr. LAWSON. The reduction is started not by Mexican use, but, as it says here, by an extraordinary drought in the United States. That puts into action the application of this drought clause. It has no bearing on what Mexico is operating under, so far as the use of water is concerned, whether it is consumptive use or over-all use or any other use. It applies to the situation in the United States. It is already in practice. We have it now in this treaty. We have operated under the treaty at El Paso. When there was a drought condition in the United States the amount of water was decreased to Mexico in the same proportion. It has actually been demonstrated. We have operated under that situation, and it has worked out. There has been no complaint by the American water users of the Rio Grande project when it has been called into effect, and no complaint by Mexico, because she recognizes exactly what it means.

Senator DOWNEY. Let me call to your attention the fact that the reduction of water in Mexico only begins when two factors exist in the United States. The first is the extraordinary drought, and the second is the reduction of consumptive uses in the United States. That is true; is it not? There have to be two factors in the United States—the extraordinary drought and, by reason of that, the reduction of consumptive uses in the United States. Is that not true?

Mr. LAWSON. I do not see how you can couple them. What does the extraordinary drought have to do with it?

Senator DOWNEY. In the event of an extraordinary drought, making it difficult to deliver the water allocated to Mexico, the water in Mex-

ico will be reduced in the same proportion as consumptive uses in the United States. In other words, you do not begin to reduce Mexico's water until that has occurred. That is very plain, Mr. Lawson.

The CHAIRMAN. It has been developed about three times.

Senator DOWNEY. Mr. Chairman, let me just state this, and I ask your sympathy on this. I happened to have a rather large experience in irrigation law—

The CHAIRMAN. I am speaking about the fact that you have brought out three different times this very point. I do not object to hearing you, and I want to be courteous, but to just keep on reiterating the same thing, over and over again, takes up not only the time of myself, but that of the other members.

Senator DOWNEY. The only reason I brought it out was because Mr. Lawson misunderstood the terms of the treaty.

The CHAIRMAN. He read them. He could not misunderstand them if he read them to you.

Senator DOWNEY. I asked him if it was not necessary to have two factors exist in the United States before there would be any reduction of the right in Mexico, to which he said no; and I am now asking if it is not true that one factor must be the extraordinary drought and the other must be the reduction of consumptive uses in the United States.

Is not that true, Mr. Lawson?

Mr. LAWSON. Does not one follow the other?

Senator DOWNEY. Yes; one follows the other, of course.

Mr. LAWSON. You make the determination based on the extraordinary drought.

Senator DOWNEY. If the extraordinary drought did not result in the reduction of any consumptive uses in the United States, you would not reduce Mexico's water?

Mr. LAWSON. That could easily happen.

Senator DOWNEY. Yes; it could. I ask you as an engineer to tell us what you think, as Boundary Commissioner, if these facts exist. Assume Mexico has an over-all use of 1,500,000 acre-feet, and out of that a consumptive use of only 1,000,000 acre-feet; that there is a return flow of 500,000 acre-feet; assume that in the Central Valley project, in Arizona, there is an over-all use of 1,500,000 acre-feet and a consumptive use of 1,000,000 acre-feet, with the same return flow of 500,000 acre-feet. Now, there is a drought in the United States and a reduction of the use of water in Arizona. Will you tell me how and when you would commence the reduction in Mexico, under this language as you interpret it, compared with the reduction in Arizona?

Mr. LAWSON. As soon as an extraordinary drought existed you would serve notice on Mexico that such a condition did exist. You would then make your reduction in flow based upon the amount of water that may be available under those drought conditions to fulfill this delivery of one and one-half million acre-feet.

Senator DOWNEY. I will first ask you to listen to me as I read this:

* * * reduce in Mexico in the same proportion as consumptive uses in the United States.

Under that, would you make any reduction in Mexico until you had begun a reduction of water use in the United States?

Mr. LAWSON. Yes, sir.

Senator DOWNEY. You would?

Mr. LAWSON. Yes.

Senator DOWNEY. You actually mean that as you understand this treaty—

Mr. LAWSON. I have done it, on the Rio Grande, under the Treaty of 1906.

Senator DOWNEY. You would begin to reduce the uses of water in Mexico before you did it in the United States?

Mr. LAWSON. As soon as the drought condition was apparent and was reported—and those things are common knowledge—then Mexico is served with notice that the reduction is in process. That reduction would take place as soon as it could be determined what losses were to be felt in the shortage of water supply.

Let me explain, Senator, the actual operation of this thing. Under a similar paragraph of the 1906 treaty at El Paso the Rio Grande project, which serves two States and two countries, has experienced a drought condition. There is a storage reservoir; they have the Elephant Butte Reservoir, and the irrigation district in New Mexico and Texas have found it necessary at the beginning of the season to notify every individual water user, those people who are paying the cost and using the water, that the supply evidently was not enough to give them their actual use for the year of approximately 3,000,000 acre-feet. The first contracts the Reclamation Bureau made between those districts and the individual water users are for half that amount. At that time, then, acting for the International Boundary Commission, we notified Mexico that its delivery would be in the same proportion, and their schedule was cut some 50 percent, as it was to the American water users.

Senator DOWNEY. In that case you did reduce by the same proportion the water being used in Mexico and in the United States?

Mr. LAWSON. Yes.

Senator DOWNEY. The question I want to ask you is this. If in Arizona the consumptive use was only 1,000,000 acre-feet, although the over-all application was 1,500,000 acre-feet, and the water delivered to Mexico is 1,500,000 acre-feet, would you not begin to reduce Arizona before you began to reduce Mexico?

Mr. LAWSON. How would I reduce Arizona?

Senator MCFARLAND. Talk about California, Senator.

Senator DOWNEY. Did you not say that if you only had 1,200,000 acre-feet to go to Arizona, she would not have gotten down to her consumptive use of 1,000,000 acre-feet, that it would have been reduced 300,000 acre-feet already?

Mr. LAWSON. I do not think that has anything to do with the application of the treaty, Senator.

Senator DOWNEY. As I understand you, Mr. Lawson, as an engineer and as a boundary commissioner you see no difficulty in making a reduction on an over-all application in one country when you base the reduction on consumptive use in another country. You do not see any difference? You do not see what I am talking about?

Mr. LAWSON. No; I do not see its application to this treaty.

Senator DOWNEY. All right.

Senator MILLIKIN. Mr. Lawson, may I invite your attention to the fact that the over-all allocation of 1½ million acre-feet refers to the delivery schedules, and that the delivery schedules make no allowance for losses in consumptive use. They tie perfectly into the million

and a half and balance out, thus showing that the million and a half acre-feet referred to is an over-all amount for delivering to Mexico.

Mr. LAWSON. That is true, Senator.

Senator MILLIKIN. What was the date of the Mead offer, please?

Mr. LAWSON. 1929, Senator.

Senator MILLIKIN. And that was in contemplation of the completion and operation of Boulder Dam?

Mr. LAWSON. Yes, sir.

Senator MILLIKIN. Who first brought up the matter of the Mead proposal here?

Mr. LAWSON. Not so much in the language, Senator, but in the use of the offer of 750,000 acre-feet.

Senator MILLIKIN. So your purpose in bringing up the Mead proposal was to show that in addition to the 750,000 acre-feet, as of the time of Boulder Dam, other water might have been contemplated as an additional amount?

Mr. LAWSON. That is correct.

Senator MURDOCK. I dislike to interrupt, but it seems to me that Senator Downey is driving at a point here that is of the utmost importance. I do not know whether it is because of the form of his question that you have not followed him or not. My only purpose now is to see if I can frame the question in a way that might help.

Mr. LAWSON. Will you let me say, Senator, how the drought clause would be invoked?

Senator MURDOCK. Let me ask you this question, and maybe your explanation will answer. As I understand it, as you explained, there must be an extraordinary drought take place before you are entitled to decrease Mexico's water. That is true, is it not?

Mr. LAWSON. That is true, except in the other case of accident to the irrigation system.

Senator MURDOCK. The treaty also says that Mexico, in her use of water, can only be decreased in the proportion as consumptive uses in the United States are reduced. So that if I understand the language, there must not only be an extraordinary drought, but there must also be a reduction of consumptive uses in the United States before you are entitled to decrease the amount of water that goes to Mexico. Am I right on that? Is that your understanding of the treaty? That is my understanding of it. As I read the treaty, one is a condition precedent to the other.

Mr. LAWSON. Would not the drought condition have to be established in some way? I mean, it is obvious, but—

Senator MURDOCK. I can visualize the most extraordinary drought in the United States, and still, because of vast storage resources on the river, there is no need for the reduction of consumptive uses in the United States. That, to me, is important. I think what Senator Downey has in mind is the point that there are two things in the treaty that must occur before you are justified in reducing Mexico one drop of water. One is the extraordinary drought, and the other is that you have actually reduced consumptive uses in the United States.

Mr. LAWSON. That involves a very technical proposition. It is the question, for instance, of whether, having a full Boulder reservoir, you could establish a drought condition with a full reservoir at Boulder. And many other questions are involved.

Senator MURDOCK. You take the position that the extraordinary drought mentioned in the treaty is dependent on how full Boulder Dam is or some other dams that may be constructed?

Mr. LAWSON. No; I do not take that position. In other words, you could not establish a drought until there was some effect of the drought; and that effect would not be in the reservoir, but on the lands.

Senator MURDOCK. That is what I am trying to get at.

The CHAIRMAN. Senator, may I intervene and ask a question?

Senator MURDOCK. I am through, Mr. Chairman.

Senator DOWNEY. I wanted to ask another question whenever the chairman permits.

The CHAIRMAN. I thought you were through. Please do not go back over the same thing that you have interrogated him about so thoroughly.

Senator DOWNEY. All I want to show is that the witness was 100 percent mistaken in assuming that this language followed the language of the 1906 Mexican treaty. The 1906 Mexican treaty is drafted as any lawyer or engineer would draft it. It can be carried out. It is simple and logical, and I would like to read it to him.

The CHAIRMAN. Go ahead.

Senator DOWNEY. I now read to you from the Mexican treaty of 1906, from the second paragraph of article 11, the following language:

In the case, however, of an extraordinary drought or serious accident to the irrigation system in the United States, the amount delivered to the Mexican canal shall be diminished in the same proportion as the water delivered to lands under said irrigation system in the United States.

Are you here, Mr. Lawson, telling this committee that you think that that expression in the 1906 treaty has the same legal effect as the expression in the present treaty?

Mr. LAWSON. Yes, I am. I am not a lawyer, however.

Senator DOWNEY. Mr. Chairman, if I might intervene with this comment. I think the very fact that an extraordinary and unusual change in the 1906 language was made is indicative of something that this committee should consider most carefully, because it is a marked change that any irrigation lawyer would say would have a profound effect.

The CHAIRMAN. The committee will consider all those matters; you need not worry about that.

Are you through, Mr. Lawson?

Mr. LAWSON. I have a statement on the general topography of the Mexicali Valley.

The CHAIRMAN. I believe I will indulge myself in the luxury of asking you a question. The point that Senator Downey and Senator Murdock are making, I understand, is that, first, there must be an extraordinary drought. In the event that that drought results in a decrease of the consumptive use, if there is a reduction of consumptive use in the United States, then Mexico shall be reduced in the same percentage as that consumptive use is reduced; is that true?

Mr. LAWSON. That is true.

The CHAIRMAN. If we should have a drought, no matter how severe, and it did not necessitate the reduction of any consumptive use in the United States, either because they have not developed to the full capacity or for any other reason, there would be no requirement in that case to reduce Mexico, would there?

Mr. LAWSON. No.

The CHAIRMAN. Is that right?

Mr. LAWSON. Yes.

The CHAIRMAN. Go ahead.

Mr. LAWSON. There is just one fact I want to bring out, and that is that it is entirely feasible and practical at this time for Mexico to build a river bank heading in Mexican territory just below the upper boundary line, only a few hundred yards below the present Rockwood diversion structure, and from such heading irrigate by gravity all the lands now supplied from the Rockwood heading in the United States, and by extensions of the canal system to irrigate practically all the land in the Mexicali Valley on both sides of the river.

I would like to put the complete statement in the record.

The CHAIRMAN. All right.

Mr. LAWSON (reading):

The Mexicali Valley includes lands in both the States of Sonora and Lower California, Mexico, and is that part of the Colorado River delta which lies in Mexico. It is bounded on the east by the Yuma and Sonora mesas, on the west by the Cocopa Mountains, on the south by the Gulf of California, and on the north by the boundary line between the United States and Mexico.

The valley is the southerly part of the Colorado River delta and is separated from the northerly part, the Imperial Valley, only by the international boundary line. The prominent topographical feature of the delta is the silt barrier built by the river across the middle of the Mexicali Valley. From this barrier which is at an elevation of about 50 feet above sea level the lands slope downward northerly to the Salton Sea, some 240 feet below sea level and southerly to sea level at the Gulf of California. Since the rainfall in this region is less than 4 inches, the development of the fertile delta soils is wholly dependent upon irrigation especially in view of the long, extremely hot summers and the relatively high temperatures throughout the year.

The valley in Mexico has an area of about 2,200 square miles, or about 1,500,000 acres of which over 900,000 are classed as irrigable. All of the irrigable lands lie below the level of the water surface of the river where it crosses the upper international boundary line, and over 800,000 acres lie more than 15 feet below this river water level. A small part of the area near Mexicali is below sea level and the larger part of the area is only from naught to 50 feet above sea level.

The river through the valley is flowing on a ridge with the lands generally sloping away to either side so that it is possible and practical to construct works in the river banks to divert water for the irrigation of the valley lands. In many cases where river bed scour has occurred pumps have been installed. These have very low lifts. As the developments increase in size the tendency is to connect the ditches from these pumps and form larger main ditches running parallel with the river. The plans and works of the National Irrigation Commission of Mexico include the extension of gravity laterals from the main Alamo canal into this lower area, now generally protected from overflow by upstream storage. In many cases where the river bed has aggraded, direct gravity diversions are being made.

It is entirely feasible and practicable at this time for Mexico to build a river bank heading in Mexican territory just below the upper boundary line only a few hundred yards below the present Rockwood structure, and from such heading to irrigate by gravity all of the lands now supplied from the Rockwood heading in the United States and by extensions of the canal system, to irrigate practically all the lands in the Mexicali Valley on both sides of the river. At the present time Mexico is watering certain small areas by pumping from the Alamo canal. Such pumping would have to be continued with the new all-Mexican heading and certain other small areas would have to be supplied by pumping either from the canal system or direct from the river as is the present practice.

The above is on the point that Mexico can divert from the lower Colorado River in her own territory water in sufficient quantity to irrigate a much larger area than now irrigated as was proved in 1905 and 1906 when the entire river

flow was discharged through a cut in the river bank and since that date only prevented from overflowing these lands by an elaborate system of levees.

With the large surplus discharge of many times the treaty allocation in the lower Colorado River most certain to be available to Mexico for many years in the future, Mexico's diversion and use is certainly not limited.

Senator JOHNSON of California. Are those amendments that you suggest to the treaty?

Mr. LAWSON. No, sir.

The CHAIRMAN. Do you have any other matter, Mr. Lawson?

Mr. LAWSON. One other, on the amount of water used by Mexico from the Colorado River in 1943.

The CHAIRMAN. Proceed.

Mr. LAWSON. Starting with the irrigation season of 1941, the United States section of the International Boundary Commission established a field office at Calexico, Calif., where it has since been maintained.

Data for 1941, in regard to the area irrigated and the water diverted were assembled at this office by an engineer of the United States section, working in close cooperation with a representative of the Mexican section of the Commission. The method used in the determination of the acreage served by pumping from the lower river was by detail inspection and included studies of the files of the finance companies and the gin records.

This area was brought under pumps shortly after the expropriation of lands under the Alamo canal system—speaking, now, of the area south, in which it is possible now to divert by gravity and also by pumping.

A small pump acreage was irrigated in 1938, and the acreage increased rapidly thereafter. In 1941 there were 77 pumping plants in which there was a total of 99 pumps in operation. These pumps have a combined capacity of 2,330 second-feet.

Since that time the Commission has made an investigation of the acreage and water diversions for each successive year through 1944.

The rapid expansion in development of lands served by pumping and gravity diversion from the lower river was evident by the fall of 1943, when the negotiations for the treaty were initiated.

In that year the United States section sent a party into the field in Mexico for a determination of the areas irrigated. Full use was made of all available maps in locating these irrigated lands, particularly aerial photographs, which covered the entire area. After the field inspection and tabulation of areas, a check was made by examination of the records of the cotton gins, which indicated the approximate growing location of each bale of cotton that was ginned. Additional check was provided from a study of the files of the finance companies. The pumps were visited and their serviceability was noted. These investigations indicated that the acreage served by pumping and gravity from the lower river, which areas lie on both sides of the river, was over 90,000 acres.

The soil in the lower river is much more sandy and looser than the soils farther north under the Alamo canal. However, the canals to the lower river areas are usually shorter in length. Using the same diversion duty that was required for the lands under the Alamo canal system which was found to be slightly more than 6 acre-feet per acre during 1943, the total diversions from the lower river are about 550,000 acre-feet. This figure on diversion duty is checked by diversions to

Imperial Valley, measured in the All-American Canal below Siphon Drop, for the few years since the All-American Canal went into operation. It is also materially less than comparable figures for the Yuma project.

Based on the total capacity of the pumping plants, and disregarding the gravity diversions, the total diversions could have amounted to 670,000 acre-feet. This figure is on the assumption that the water use in the lower river area followed the same pattern as the area irrigated under the Alamo canal.

Additional water was diverted to Mexico from the wastes and drainage of the Yuma project, which in 1943 totaled approximately 104,000 acre-feet.

The figures resulting from the investigations of the Commission for 1943 are as shown in the tabulation below:

Data for 1943 in Mexico

Area irrigated:		
Alamo canal.....	acre.....	191,700
Other.....	do.....	101,400
Total.....	do.....	293,100
Water diverted:		
Alamo canal.....	acre-feet.....	1,152,000
Other.....	do.....	653,000
Total.....	do.....	1,805,000

Data since 1928 on acreage irrigated and water diverted are shown in the following tabulation (as furnished from the records of the Mexican section of the Commission):

Water diversions for Mexico

Year	Acreage irrigated			Water diverted		
	Alamo	Other	Total	Alamo	Other	Total
1928.....	191,400	1,300	192,700	862,000	141,000	1,003,000
1929.....	165,000	1,800	166,800	821,000	186,000	1,007,000
1930.....	133,700	2,400	136,100	737,000	164,000	901,000
1931.....	103,300	3,000	106,300	585,000	87,000	672,000
1932.....	69,900	3,600	73,500	486,000	76,000	562,000
1933.....	132,900	4,200	137,100	652,000	44,000	696,000
1934.....	156,600	4,800	161,400	627,000	31,000	658,000
1935.....	199,800	5,400	205,200	1,070,000	32,000	1,102,000
1936.....	204,800	6,000	210,800	1,318,000	52,000	1,370,000
1937.....	205,000	6,600	211,600	1,270,000	57,000	1,327,000
1938.....	172,300	11,000	183,300	1,234,000	110,000	1,344,000
1939.....	175,300	23,600	198,900	1,177,000	196,000	1,373,000
1940.....	187,100	58,000	245,100	1,224,000	400,000	1,624,000
1941.....	227,600	82,600	310,200	1,045,000	544,000	1,589,000
1942.....	167,100	96,900	264,000	911,000	627,000	1,538,000
1943.....	191,700	101,400	293,100	1,152,000	653,000	1,805,000
1944.....	197,900	105,400	303,300	1,097,000	673,000	1,770,000

All facts as already presented and demonstrated by actual performance show that the expansion of irrigated area in Mexico is as certain as the unquestioned water supply now available and to continue available for many years. The entrance of the National Irrigation Commission of Mexico into the situation with authorizations and ample funds now being expended is a reality, not a conjecture.

With a condition of over 7,000,000 acre-feet of water annually available to Mexico from the Lower Colorado River flowing through her territory, with the opportunity of diversion by gravity and pumping to an area of several hundred thousand acres of irrigable land highly productive and easily farmed with abundant labor, with the same opportunity of safety from large destructive floods of the past, can anyone believe this development will be curtailed or decreased?

The CHAIRMAN. Were those figures for 1943 or 1944?

Mr. LAWSON. For 1943, Senator.

The CHAIRMAN. 1,800,000 acre-feet?

Mr. LAWSON. Yes.

The CHAIRMAN. Were those figures obtained by careful investigations from actual figures in the field in Mexico?

Mr. LAWSON. Yes.

The CHAIRMAN. The pumping and the actual lower diversion were in addition to the water which was received through the Alamo canal?

Mr. LAWSON. Yes, sir.

The CHAIRMAN. The Alamo canal furnished about 1,100,000 acre-feet?

Mr. LAWSON. The condition has changed. There are some lands which required pumping which can now obtain water service by gravity instead of pumping.

The CHAIRMAN. By the establishment of a head?

Mr. LAWSON. No; it is by reason of the fact that the river has deposited sand and silt in the lower region and the elevation of the water is higher.

The CHAIRMAN. It has built up its bed?

Mr. LAWSON. Yes.

Senator MURDOCK. Is it not a fact, Mr. Lawson, that under the language of the treaty, with reference to extraordinary droughts, and so on, the storage capacity of the United States under that language becomes just as much of an insurance to Mexican water rights as to rights within the United States?

Mr. LAWSON. The guaranty of 1,500,000 acre-feet is a very different guaranty from, for instance, the 75,000,000 acre-feet of the upper States in a 10-year period. I am assuming from that that if the drought conditions made the deliveries of water less to Mexico in 1 year there was no need to make up for that difference in the next year.

Senator MURDOCK. The point that I make is that under the language of the treaty, until we begin to decrease the consumptive use in the United States, we are not entitled to decrease it in Mexico; which language, as I construe it, means that all of the storage works constructed in the United States for the conservation of water become just as much of an insurance to Mexican water users that they will get their full capacity as it is to the United States water users. That is true, is it not?

Mr. LAWSON. There is some relation there; you might have storage water and still have a drought condition.

Senator MURDOCK. That is it.

Mr. LAWSON. And that applies to Mexico, and not the amount of water in storage.

Senator MURDOCK. It applies to Mexico just as much as it applies to the United States. As long as our storage facilities are such that

we can still deliver Arizona or California or any other State its entire consumptive use, we are not entitled, under the language of the treaty, to diminish one drop of flow of the water into Mexico, which language thereby makes our conservation works in the United States just as much an insurance to Mexico as they are to the users in the United States?

Mr. LAWSON. It is not quite that way, Senator.

Senator MURDOCK. I hope you will give that language your attention.

The CHAIRMAN. As long as the consumptive uses in the United States are not decreased in any wise, and they have all they can consume, whether we reduce Mexico or whether we do not would not make any difference, because that water will go right down the river into Mexico. Is not that true?

Mr. LAWSON. Whatever is released.

The CHAIRMAN. The water would go on down to Mexico, all of it that was not consumed by consumptive uses. The treaty says that if there is a drought and if the consumptive uses in the United States are decreased, we will decrease the Mexican allocation in the same percentage. But if there is no reduction in the consumptive uses in the United States and they get all the water they can use, then the percentage is nothing. The percentage of reduction to Mexico is nothing. There is no reduction in our consumptive uses in the United States, and therefore you would not reduce Mexico?

Mr. LAWSON. That is correct.

The CHAIRMAN. That is all.

Senator JOHNSON of California. I did not know whether you nodded your head one way or the other in response to that question.

Mr. LAWSON. I said yes. I got from the chairman's question the idea that if all consumptive uses were satisfied in the United States, Mexico would get the benefit of that water that was released in the river.

Senator JOHNSON of California. That is a very different thing from what he asked you—a very different thing.

The CHAIRMAN. That is exactly what I said.

Mr. LAWSON. That is exactly what I understood him to say.

Senator JOHNSON of California. I think you misunderstood him.

The CHAIRMAN. No. I do not want to interrupt you, but that is what I asked him.

Senator JOHNSON of California. Is that what you asked him?

The CHAIRMAN. Yes.

Senator JOHNSON of California. Then you phrased it peculiarly.

Is your employment the same today as it was the other day when you were here?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. Are you working for the United States now?

Mr. LAWSON. I always have.

Senator JOHNSON of California. Do you think that it is a just and proper thing for you to be working as hard for our Mexican brethren as for the United States?

Mr. LAWSON. Will you let me answer that in my own way?

Senator JOHNSON of California. Yes; answer it just as you please.

Mr. LAWSON. As American Commissioner of the International

Boundary Commission, we have constructed along the boundary in several States many works of an international character in which the United States was always a beneficiary and not a loser. In no case have we constructed or operated any works to the detriment of the interests of the United States; they have always been of benefit to both countries.

Senator JOHNSON of California. But you have given, in matters of this sort, a little the best of it to Mexico?

Mr. LAWSON. I do not think so. I do not admit that.

Senator JOHNSON of California. You do not?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. You think your construction of this treaty as written by the State Department—well, I will not ask you that; that would not be fair. But do you think the treaty, construed in accordance with its words, is one that is beneficial to the United States?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. It is very, very beneficial to the United States, is it not?

Mr. LAWSON. I did not put the emphasis on that, you did.

Senator JOHNSON of California. Oh. You left off the emphasis that I put on. Do you give any emphasis at all to your construction of this treaty?

Mr. LAWSON. I do not understand the question.

Senator JOHNSON of California. I ask you simply whether you give any emphasis at all to the construction of this treaty.

Mr. LAWSON. The treaty is the result of negotiations that were fair and equitable to the two countries involved.

Senator JOHNSON of California. Yes; absolutely so. But who represented the United States at the negotiation of the treaty?

Mr. LAWSON. We had three representatives from the Department of State.

Senator JOHNSON of California. Do you know who they were?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. Who were they?

Mr. LAWSON. One was Mr. Laurence Duggan, the chief of the Division of Mexican Affairs; one was Mr. Joseph McGurk; one was Charles Timm. Mexico also had three representatives of their foreign relations department.

Senator JOHNSON of California. Do you consider that those three gentlemen gave the best that was in them to the United States in negotiating this treaty?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. Do you think that any higher officials could have been chosen than that?

Mr. LAWSON. I feel sure that many higher officers considered the treaty before its signing in Washington.

Senator JOHNSON of California. Do you recollect who they were?

Mr. LAWSON. Well, beginning with the Secretary himself, Mr. Cordell Hull.

Senator JOHNSON of California. He is sick, is he not?

Mr. LAWSON. Not at the time he signed the treaty.

Senator JOHNSON of California. Well, he has my sympathy, whether it was at the time he signed the treaty or subsequently; and I would not indicate by anything that I say a lack of confidence in Cordell Hull. So that goes for that. But there were three members of this Commission on the American side?

Mr. LAWSON. Yes, sir, there were three signers.

Senator JOHNSON of California. And three on the Mexican side?

Mr. LAWSON. Yes. Three who negotiated the treaty.

Senator JOHNSON of California. Have you ever seen any of the three?

Mr. LAWSON. I have seen them.

Senator JOHNSON of California. Well, Washington is a pretty big place now. Have you seen any of those men consulting with any of the Senators who were interested in this proposition?

Mr. LAWSON. I could not answer that, Senator: I could not say whether they have or not, because they may have done so without my knowledge.

Senator JOHNSON of California. Do you know the Mexican commissioners?

Mr. LAWSON. Yes.

Senator JOHNSON of California. Do you have the same absolute expression of confidence in them as you have in the American commissioners?

Mr. LAWSON. I could not tell you that.

Senator JOHNSON of California. You are doubtful about that?

Mr. LAWSON. No; I am not doubtful, but I have no knowledge.

Senator JOHNSON of California. And that is the reason you are doubtful?

Mr. LAWSON. That is the reason I am not in a position to answer your questions?

Senator JOHNSON of California. That is a good answer. Did you see this treaty before it was executed and signed by the parties?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. Did you have an opportunity to go through it?

Mr. LAWSON. Oh, yes. Before it was signed, you mean?

Senator JOHNSON of California. Yes.

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. Do you realize that so far as I am aware there was not a single man interested in this treaty, not a single man from the locality, that was permitted to see it?

Mr. LAWSON. I do not so understand, Senator.

Senator JOHNSON of California. I would not say that they would write a treaty in different phrases or in a different manner, but it would not have taken a very long time to have gone about in this Capitol and talked to the men who were interested in this treaty. I dislike personal references, but I spent 8 years in getting the Boulder Dam bill passed here. I had no particular aid at that time from any of the men who wrote this treaty. It would not have done them a bit of harm to have seen me or to have seen my colleague, Mr. Swing, and to have submitted to us, for a brief reading, the treaty. Don't you think so?

I ought not to ask you that, because it might reflect upon some one of your superiors. I would not want to do that. I understand how superiors act and how little consideration is given to an individual who simply is seeking to do his duty without any help from any particular official.

The CHAIRMAN. Are there any other questions?

Senator JOHNSON of California. Yes. I have a question or two that I want to ask.

The CHAIRMAN. Go ahead.

Senator JOHNSON of California. How did you happen to see the treaty before it was signed? You were not one of the representatives, were you?

Mr. LAWSON. I was present in El Paso when the treaty was negotiated, together with other engineers.

The CHAIRMAN. I do not think he finished his answer.

Senator JOHNSON of California. Go ahead, if you have anything further to say.

Mr. LAWSON. I have nothing further to say, sir.

Senator JOHNSON of California. If you have nothing to say, then there cannot be any quarrel between us.

So far as these two sets of commissioners were concerned, did you talk with any of them concerning this treaty before it was negotiated?

Mr. LAWSON. Yes, sir.

Mr. JOHNSON of California. Many times?

Mr. LAWSON. Many times.

Senator JOHNSON of California. Do you know any man that represented the United States of America that talked to them during that period?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. How many, and who were they?

Mr. LAWSON. I was one of them.

Senator JOHNSON of California. You were one of them, because of your official position. That is where you came in, is it not?

Mr. LAWSON. Yes.

Senator JOHNSON of California. And you would not have been one of them if you had not held the position that you did; is not that so?

Mr. LAWSON. Would you want a complete answer to that?

Senator JOHNSON of California. Yes.

Mr. LAWSON. From my observation, the State Department officials and others carried on for a period of 2 years negotiations with the representatives of the seven basin States on the Colorado. Those meetings were at various places, and from my own observation they went into particular detail on various phases of the treaty, particularly on the amount of water which they were willing for Mexico to have under the treaty; and as I recollect the last meeting between the Department of State officials and the representatives of the seven States at Santa Fe, five States voted a formula which was along the lines of limiting the offer to Mexico to approximately 11½ million acre-feet. The conferences which I attended were always well attended by representatives of all those States as well as California.

Senator JOHNSON of California. Will you tell me the representatives of the United States of America who attended those meetings?

Mr. LAWSON. The meetings were meetings of the seven States Committee, not of the United States Committee. They were meetings conducted by the seven States.

Senator JOHNSON of California. And there were no other representatives of the United States save the Seven States Committee who had been selected?

Mr. LAWSON. I did not say that, Senator.

Senator JOHNSON of California. I beg your pardon.

Mr. LAWSON. I meant to say that those meetings were conducted by the Seven States Committee, and there were representatives from each State at those meetings, and also representatives of the Department of State at those meetings.

Senator JOHNSON of California. Can you recollect the representatives of California?

Mr. LAWSON. California was well represented, I remember.

Senator JOHNSON of California. Of course it was well represented; I know.

Mr. LAWSON. I have seen Mr. Phil Swing, Mr. Scattergood, Mr. Evan Hewes, of the Imperial district, Mr. Dowd, chief engineer, Mr. Howard, Mr. Elder. All those who have testified here were usually present at each one of those conferences of the seven States.

Senator JOHNSON of California. Then, we had a good representation there, I concede. Now, beyond those men and the Mexican delegates, was the draft of the treaty submitted to any persons?

Mr. LAWSON. Not that I know of, except to the Department of State here in Washington.

Senator JOHNSON of California. Well, I refrained from mentioning the Department of State, because I recognize they are above us. They are so high above us that we cannot touch them, and we who are just citizens of the State of California have to fight our way through in order to get a hearing here.

Excuse me for that addition. You may not appreciate it. But it makes me feel good to get it off my chest.

When did you get this ready for the signature of the different States?

Mr. LAWSON. The treaty?

Senator JOHNSON of California. Yes.

Mr. LAWSON. It was never signed by the different States.

Senator JOHNSON of California. What?

Mr. LAWSON. The treaty was never signed by the different States.

Senator JOHNSON of California. Well, by whom was it signed?

Mr. LAWSON. It was signed by the Secretary of State.

Senator JOHNSON of California. He alone?

Mr. LAWSON. He and the Ambassador to Mexico.

Senator JOHNSON of California. Well, you do not quite mean that.

Mr. LAWSON. Perhaps I do not get your question. If the treaty was expected to be signed by the various States, I do not know of any treaty that is so signed.

Senator JOHNSON of California. By whom was it signed?

Mr. LAWSON. It was signed by the Secretary of State.

Senator JOHNSON of California. You said that once; you do not need to say it twice to me, because I recognize that the Secretary of State's office is far above me. So go ahead.

Mr. LAWSON. It was signed by the Secretary of State, by Mr. George Messersmith, Ambassador of the United States, and by myself.

Senator JOHNSON of California. Ah! Now we have reached it.

Mr. LAWSON. What, sir?

Senator JOHNSON of California. Then, you are one of the original progenitors of the treaty?

Mr. LAWSON. I am the last signer of the treaty.

Senator JOHNSON of California. How did you happen to sign it?

Mr. LAWSON. I think it is a good treaty.

Senator JOHNSON of California. You think it is a good treaty?

Mr. LAWSON. Yes, sir. My opportunity to sign it came from my employment under the State Department.

Senator JOHNSON of California. I thought so, and the question of its being a good treaty did not enter into the subject very much?

The CHAIRMAN. Are there any other questions, Senator?

Senator JOHNSON of California. I want him to answer that.

The CHAIRMAN. He wants you to answer the last question.

Senator JOHNSON of California. I will ask it in another way. You spoke of a great volume of, I think it was, alfalfa—I am not sure—that was subject to this water that was turned in to the Mexican people. What do they raise?

Mr. LAWSON. I understand their principal crop is cotton, Senator.

Senator JOHNSON of California. How large a segment of land do they utilize for cotton?

Mr. LAWSON. Compared with other crops?

Senator JOHNSON of California. Yes.

Mr. LAWSON. Compared with other crops, I think the majority of the land is in cotton.

Senator JOHNSON of California. Who owns the land?

Mr. LAWSON. I have no definite knowledge as to the private ownership.

Senator JOHNSON of California. What?

Mr. LAWSON. I have no definite knowledge as to the private ownership.

Senator JOHNSON of California. Did you hear the testimony this morning of the attorney general of the State of California as to some ownership?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. Do you know the individual to whom he referred?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. Well, neither do I, so there is one thing in common between us.

Did you have anything to do with the final signing of the treaty itself?

Mr. LAWSON. Well, I signed the treaty with Secretary Hull and Mr. Messersmith.

Senator JOHNSON of California. Who were the Mexicans on it?

Mr. LAWSON. The Ambassador from Mexico and the Mexican Commissioner.

Senator JOHNSON of California. Do you know whether or not the gentleman who owned a large segment of cotton land down there that was benefited by this treaty was one of the signers of it?

Mr. LAWSON. I am quite sure I did not see his name on it.

Senator JOHNSON of California. Oh, you looked for it?

Mr. LAWSON. No; I did not look.

Senator JOHNSON of California. That will be all.

Senator DOWNEY. I have a few questions, Mr. Chairman, if I may ask them. I will be very brief.

The CHAIRMAN. Just one moment, Senator Downey. I want to ask a question.

Mr. LAWSON, there has been a good deal asked about your employment. How long have you been boundary Commissioner for the United States?

Mr. LAWSON. I have been boundary Commissioner for 18 years.

The CHAIRMAN. Prior to that time were you not in the employ of the United States Reclamation Service for a number of years?

Mr. LAWSON. Yes. I began my service for the Government by surveying—by making a topographic survey of the Colorado River in 1903 and 1904 from the location of the present Boulder Dam to the Gulf of California.

Senator JOHNSON of California. You are familiar with the topography of the country out there; are you?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. Do you remember those great high walls? I never saw them before in any sort of formation. But do you recall the two enormous walls that went away up and held between them the water of the Colorado River?

Mr. LAWSON. Yes, sir.

Senator JOHNSON of California. To me that was the most picturesque part of Boulder Canyon, and I shall never forget it.

Was it a very, very difficult thing to construct the Boulder Canyon works?

Mr. LAWSON. I should say it was one of the outstanding engineering feats of the century.

Senator JOHNSON of California. And its two great cylinders that extend clear up to the sky, it seems—that is a great work, too; is it not?

Mr. LAWSON. Yes.

The CHAIRMAN. Answer so the reporter can hear you, Mr. Lawson.

Mr. LAWSON. Yes.

Senator JOHNSON of California. Have you passed along there simply looking at the topography?

Mr. LAWSON. I was there, Senator, long before Boulder Dam was built. I was there to survey the site of what is now known as Davis Dam. It was then Bull's Head Dam. I went there in October 1902 to make that survey.

Senator JOHNSON of California. Well, that was a little before my age, but not much. I enjoyed seeing the great walls there. It seemed impossible for them to do the work. Subsequently I saw men working on those walls halfway up, and it was a strange thing to me. But you are going to send them all down now, are you not?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. Of course, you would not have the love of them that I have. But I ask a plain question now. You are doing your best to break them down, are you not?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. What?

Mr. LAWSON. No, sir.

Senator JOHNSON of California. You are going to give them a chance? Well, that is all.

• Senator DOWNEY. I have a few very brief questions that I should like to ask, if I may, please, Mr. Chairman.

The CHAIRMAN. All right, Senator Downey.

Senator DOWNEY. Mr. Lawson, you gave testimony as to the amount of land being irrigated in Lower California in 1944. Were those figures based upon your own personal surveys in Lower California?

Mr. LAWSON. No, Senator. I did not cover all those areas, but I have men in my employ who did, and I have confidence in their reports.

Senator DOWNEY. Did you cover any of them personally?

Mr. LAWSON. I have been in the area.

Senator DOWNEY. In 1944?

Mr. LAWSON. Yes, sir.

Senator DOWNEY. How long were you there in 1944?

Mr. LAWSON. Not very long.

Senator DOWNEY. Did you do any surveying or calculation yourself?

Mr. LAWSON. No, sir.

Senator DOWNEY. How many men did you have working down there?

Mr. LAWSON. We had one engineer, who obtained various assistants at various times, who was helped by the engineers of the Mexican section of the Commission.

Senator DOWNEY. Ah! Who is that engineer?

Mr. LAWSON. That man is a man named T-i-g-h-e—Tighe.

Senator DOWNEY. By whom was he employed?

Mr. LAWSON. He is employed by the American section of the Commission.

Senator DOWNEY. How long was he down there in 1944 surveying these lands?

Mr. LAWSON. Well, that I could not tell you.

Senator DOWNEY. Do you know when he was down there?

Mr. LAWSON. Yes; I think he was there for at least several months.

Senator DOWNEY. I say when? In what part of 1944?

Mr. LAWSON. My testimony, Senator, was on areas and on water in 1943.

Senator DOWNEY. I beg your pardon; my questions, then, have been misdirected. Was it Mr. Tighe who was down there in 1943?

Mr. LAWSON. That is right.

Senator DOWNEY. How long was he there in 1943?

Mr. LAWSON. I could not tell you, except that I know he was there a sufficient time to get the information required.

Senator DOWNEY. How many men did he have down there with him?

Mr. LAWSON. His investigation of land areas, of course, did not include that he walked over every property that was being irrigated. He got information from the Mexican section of the Boundary Com-

mission, from the records of the National Irrigation Commission, from the records of the finance companies, from the records of the cotton-ginning people, and at least satisfied me that he had made a very reasonable inspection.

Senator DOWNEY. The question, Mr. Lawson, I ask you again is, How many assistants from the United States did Mr. Tighe have with him in Lower California in 1943—surveying the lands of Lower California?

Mr. LAWSON. He had with him at various times a different number.

Senator DOWNEY. Do you know the maximum number he had down there?

Mr. LAWSON. No, sir; I do not recall at the moment.

Senator DOWNEY. By whom were they employed and paid?

Mr. LAWSON. They were employed and paid by the people who were there. In other words, he used—we had an organization of a large number of people—he used the ordinary means that were available to him of finding out acreages, largely from the finance company, who was more interested in it than anyone else.

Senator DOWNEY. From the finance company?

Mr. LAWSON. Yes.

Senator DOWNEY. From the finance company?

Mr. LAWSON. I assume down there are more than one—probably several of them.

Senator DOWNEY. The Anderson, Clayton Co.?

Mr. LAWSON. That is one, I believe.

Senator DOWNEY. Do you think that a large part of the information that was secured by Mr. Tighe was secured from Anderson, Clayton & Co.?

Mr. LAWSON. I think he checked that against other information that he got.

Senator DOWNEY. You do not quite answer my question, Mr. Lawson.

Mr. LAWSON. Well, you asked me if “a large part”; now, I do not know that, Senator.

Senator DOWNEY. Again, I go back: Do you know whether Mr. Tighe ever had one single assistant there from the United States?

Mr. LAWSON. He did not need to have.

Senator DOWNEY. So far as you know, then, there was no assistant who went down with Mr. Tighe to assist in this survey?

Mr. LAWSON. That is right.

Senator DOWNEY. You evidently, Mr. Lawson, do not consider that it would be a rather large and difficult task to determine how many hundreds of thousands of acres of land are under cultivation at a given time? You do not think that would be difficult?

Mr. LAWSON. Well, it is impossible to get it very accurately, because they are changing from week to week.

Senator DOWNEY. As a matter of fact, 250,000 or 400,000 acres of land is a very large tract and would take certainly months to appraise carefully, would it not, with quite a survey crew?

Mr. LAWSON. Not with the aid of airplane maps and airplane photographs.

Senator DOWNEY. Did Mr. Tighe have an airplane down there?

Mr. LAWSON. No.

Senator DOWNEY. Did he take airplane maps?

Mr. LAWSON. No; but he had available to him airplane maps.

Senator DOWNEY. From whom?

Mr. LAWSON. I think those that had been made by the Mexican Government.

Senator DOWNEY. Did all the information that Mr. Tighe had come from Mexican sources in lower California or from this financial interest of the Anderson, Clayton Co., so far as you know, Mr. Lawson?

Mr. LAWSON. Tighe got his information from every source that was available.

Senator DOWNEY. Do you know of any American source—that is, any source in the United States—from which he got it?

Mr. LAWSON. Well, how would they be of benefit to lands in Mexico?

Senator DOWNEY. Mr. Lawson, I do not mean to argue, and I ask these questions very respectfully. I asked: Do you know whether Mr. Tighe got any information concerning lands in lower California from citizens or sources in the United States except Anderson, Clayton & Co.?

Mr. LAWSON. I am sure that he did.

The CHAIRMAN. Is it not likely that he would have consulted the Imperial Valley irrigation district, that was diverting so much of this water through the canal down into Mexico?

Mr. LAWSON. Probably so.

The CHAIRMAN. Would not that have been one of the sources?

Mr. LAWSON. I assume he secured information from the Mexican company.

The CHAIRMAN. The Mexican subsidiary, that was in Mexico diverting water down through the Alamo canal and thence back into the All-American Canal for the Imperial irrigation district? That would have been likely?

Mr. LAWSON. Yes.

Senator DOWNEY. You know, of course, there is no argument about that amount of water, because we have it in the water records of a subsidiary of the Imperial irrigation district. I am referring, of course, to the other land.

Mr. Lawson, you were satisfied under those conditions to accept those figures supplied by the Mexican interests?

Mr. LAWSON. Yes; I felt satisfied after they were checked by our engineers.

Senator DOWNEY. Mr. Lawson, is it not true that at a time when Senator Johnson was absent from Washington, and I could not communicate with our distinguished senior Senator, I requested our Secretary of State, then Mr. Hull, to have representatives of the State Department call upon me for the purpose of discussing the terms of this treaty, and that in conformity with my request of the Secretary you and Dr. Tim and Mr. Duggan came in my office one morning before the treaty was signed?

Mr. LAWSON. That is correct; we did.

Senator DOWNEY. And is it not true, Mr. Lawson, that each of you refused absolutely to divulge one single fact to me about the treaty? Is not that true?

Mr. LAWSON. I do not think you asked me, Senator.

Senator DOWNEY. Oh, Mr. Lawson!

Mr. LAWSON. And even if you asked, I probably could not have said anything about it.

Senator DOWNEY. That is right. You told me that.

Is it not true, Mr. Lawson, that I suggested to you and to the other gentlemen that upon the return of Senator Johnson to Washington we would call together all of the Senators from the Colorado River Basin States for a discussion of this treaty before it was signed? Is not that true?

Mr. LAWSON. I do not remember the exact words, sir. I will say it probably was.

Senator DOWNEY. Is it not true that you three indicated to me that, so far as you were concerned, you had no authority to do that and could not consent to it and referred me to the Secretary?

Mr. LAWSON. That is right.

Senator DOWNEY. Is it not true, and do you not know, that I went to see the Secretary, and he refused to allow the divulging of any of the terms of this treaty to the Senators from the Colorado River Basin States or to allow any discussions of its terms with them?

Mr. LAWSON. I would not know that.

Senator DOWNEY. You know that no such meeting or discussion took place?

Mr. LAWSON. I am not sure of that.

The CHAIRMAN. He said he did not know.

Senator DOWNEY. Very well; that is all.

The CHAIRMAN. Have you finished on that point, Mr. Lawson?

Mr. LAWSON. Yes.

The CHAIRMAN. One other question. I believe you have already testified that during the time the treaty was being negotiated, the gentlemen negotiating it had frequent contacts with the representatives of the seven States?

Mr. LAWSON. That is true.

Mr. Tipton.

ADDITIONAL STATEMENT OF R. J. TIPTON

The CHAIRMAN. You may proceed, Mr. Tipton.

Mr. TIPTON. My name is R. J. Tipton. I am the same R. J. Tipton who testified the other day in these hearings.

Senator McFARLAND. Excuse me. How late are you going to sit, Mr. Chairman? Are you going to complete Mr. Tipton's testimony?

The CHAIRMAN. I do not know how long it will take him, but I thought we would go along until sundown, maybe; something like that. I thought we would go along for just a reasonable time. I want to press the hearings as much as I can. We have so many cross-examinations that consume more time than the direct statements of the witnesses. We have got to compress this as much as we can.

Senator McFARLAND. I was thinking that if the Arizona witnesses are to go on in the morning, it might be better to hear them all at one time than to split Mr. Tipton's testimony into two parts.

The CHAIRMAN. I offered the Arizona witnesses a chance to go on this afternoon, as I thought they wanted to do; but after we had arranged for that, they said no, that they wanted to go on tomorrow. So I agreed to that. Then, I thought we could start with Mr. Tipton.

The Arizona witnesses will not take all day. Their representations are that they will not want more than 30 minutes, which we could very easily give them in the morning.

Senator McFARLAND. Is the chairman going to multiply that 30 minutes in the same proportion as was allowed the California witnesses?

The CHAIRMAN. I am going to be just as liberal with the remaining witnesses as I have been with California's, with no hope of a summer recess. In fairness I do not want to chop them down, but they indicated that they would not take much time. If we could compress a little more our cross-examinations, we would make a good deal of headway.

Senator McFARLAND. Pardon me for interrupting.

The CHAIRMAN. No; it is all right.

Senator JOHNSON of California. I take the side of the gentleman who is talking to you from over there. I would like to adjourn. It is within 20 minutes of our adjournment time.

The CHAIRMAN. There are nearly 20 minutes left. We can press along. I want to accommodate you, Senator, but I really think we ought to go ahead for a few minutes.

Senator JOHNSON of California. For a few minutes.

The CHAIRMAN. All right. We will stop at a quarter of 5.

So you get 20 minutes, Mr. Tipton.

Mr. TIPTON. Thank you, sir.

Mr. Chairman and members of the committee, I represent the Six States Committee, composed of representatives of Arizona, Colorado, New Mexico, Texas, Utah, and Wyoming.

Senator JOHNSON of California. Are you from Texas?

Mr. TIPTON. My residence is in Colorado, sir. I have lived there all my life.

Mr. Chairman, I have prepared an engineering memorandum for the Six States Committee on the treaty. It contains much background material which I do not want to read into the record. I do intend to present orally some portions of the memorandum, and with the chairman's permission I should like tomorrow to offer the memorandum at least for the information of the committee, possibly for the record.

The CHAIRMAN. All right. It will be printed in the record.

Mr. TIPTON. The points I am going to cover in my oral presentation are six. They cover six subjects:

First, a comparison of the terms of the treaty in respect of the Colorado River with the so-called Mead offer of 1929 and the use of water by Mexico before Boulder Dam was constructed.

Second, the effect of the terms of the treaty on the present and potential use of the water in the United States, both on the Rio Grande and the Colorado River.

Third, California's situation in respect of the treaty.

Fourth, the fact that the lack of a treaty deters future development in the United States.

Fifth, miscellaneous items, principally to keep the record straight. These will include:

(A) The ground water question in Mexico.

(B) The extraordinary drought provision of the treaty.

(C) Will it require a delivery of more than 1,500,000 acre-feet per annum from the Colorado River to satisfy the terms of the treaty?

(D) Some comment with respect to the 1906 treaty on the upper Rio Grande.

(E) Some discussion of the point that was raised by a Utah witness concerning article III (d) of the compact.

Then I will finally make a summary statement.

The CHAIRMAN. Very well.

Mr. TIPTON. At this moment, however, I want to volunteer a statement. I assisted in the negotiation of this treaty. This is in response to some questions you asked Mr. Lawson. Mr. Lawson headed the group that negotiated the treaty. I am proud that I assisted in that negotiation. Mr. Lawson did a very excellent job. He was too modest to say so here. It is a good treaty, and nothing that has been said here has caused me to change my mind.

Senator MURDOCK. Do you represent the State of Colorado on the Rio Grande?

Mr. TIPTON. No; the upper Rio Grande is not involved in this treaty. Is that what you had reference to?

Senator MURDOCK. My question is: Do you represent the State of Colorado on whatever right it has in the Rio Grande?

Mr. TIPTON. The State of Colorado does not have any rights in the lower Rio Grande, and that is all that is involved in this treaty.

Senator MURDOCK. Do you represent the State of Colorado in any rights that it has in the Rio Grande?

Mr. TIPTON. In the upper Rio Grande; yes, sir. I represent not only the State of Colorado and various State agencies of Colorado in respect of problems on the upper Rio Grande, but I represent also, and I have represented for 23 years, substantial interests in the upper Rio Grande in Colorado, if that answers your question.

Senator MURDOCK. That answers my question.

Senator McFARLAND. In what capacity did you assist in the negotiation of the treaty?

Mr. TIPTON. I assisted in the negotiation of the treaty as a consultant to the International Boundary Commission, but not until the majority of the members of the Committee of Fourteen had approved a formula for the allocation of water to Mexico at Santa Fe, which had been presented for consideration by the State Department.

Senator McFARLAND. But you were employed by and paid by the United States section?

Mr. TIPTON. That is correct, sir. I had been consultant for the International Boundary Commission for several years, I think possibly dating back to 1937, on various matters, but I did not represent that Commission in respect to the Colorado River until the States had approved this formula.

Mr. Chairman, going to the first topic, I want to support Mr. Lawson by saying that, in my opinion as an engineer, the so-called Mead offer of 1929 would have meant more water for Mexico than the present treaty provides. I want to say further that, in my opinion, the Mead offer would not have been as good, either for the United States or for Mexico, as the present treaty. This is one subject that I was going to discuss before I knew Mr. Lawson was going to discuss it, so I shall not cover the ground that he has covered.

However, I want to bring to bear upon this particular phase, together with other phases that I shall discuss, just common-sense reasoning. Let us see what the situation is on the river at the present time.

In order to compare the terms of this treaty with the Mead offer of 1929, there must be considered some collateral items that have been discussed at some length during this hearing. I am not going to repeat the discussions, but I do want to say something further about return flow and about canal losses. Those two items must be discussed before I can make the comparison.

There has been much said about return flow. Engineers can have fine-spun theories about many things. But let us look at it from a common-sense point of view.

The Bureau of Reclamation has estimated, and has testified in these hearings, that from the Arizona diversions there would return to the stream below Imperial Dam an average of 834,000 acre-feet—a total return of 930,000, but from Arizona 834,000 acre-feet. That would be a return from a diversion by Arizona of 2,571,000 acre-feet total diversion. The return would represent $32\frac{1}{2}$ percent of the total diversion.

Let us see what is happening on the California side, in the Imperial Valley. The Imperial irrigation district is diverting 2,500,000 acre-feet through the All-American Canal. I think Mr. Dowd testified to that. Mr. Dowd also testified to the fact that there is being returned to the Salton Sea something over 1,000,000 acre-feet. I checked that figure; I agree with it. The total return is about 1,200,000 acre-feet but some of it comes from Mexico. The present surface area of the Salton Sea is in excess of 200,000. The net evaporation loss in that area is about 6 feet, which would mean an actual loss of 1,200,000 acre-feet from the surface of the lake.

The CHAIRMAN. Why is this water diverted into the Salton Sea?

Mr. TIPTON. It has no other place to go.

The CHAIRMAN. It is below sea level?

Mr. TIPTON. Yes. The present elevation of the lake is 241 feet below sea level.

The CHAIRMAN. I have been there; I know about the Salton Sea. What I mean is that the Imperial Valley is also below sea level?

Mr. TIPTON. Yes, sir.

The CHAIRMAN. Consequently the water they would release after they have used all they can of it has to go somewhere, and it would flow into the Salton Sea, because it is below sea level; is that correct?

Mr. TIPTON. That is correct; yes.

The CHAIRMAN. There is no other place for it to go, so that water is, to all intents and purposes, wasted or lost?

Mr. TIPTON. We do not like to use the word "waste." It is lost from further beneficial consumptive use.

The CHAIRMAN. The only use it has is to look at it when you pass by on the train and look at the Salton Sea.

Mr. TIPTON. That return is a necessary part of the operation of any irrigation project.

The CHAIRMAN. I understand that.

Mr. TIPTON. That is one thing I want to stress here.

Mr. Dowd said that they had paid, I think, some \$500,000 to acquire the area around the Salton Sea so that there would be an evaporating area there sufficiently large to dissipate this water that must go to the sea.

The Imperial irrigation district also has expended several hundred thousand dollars on drainage works. Drainage is a very serious

problem in that valley. The less water that would be diverted, the less would be wasted to the Salton Sea, and the less would be the drainage problem. So it can be assumed that this million acre-feet of return is a necessary return. Mr. Dowd said that they hoped that in the future it would be lessened. However, I call attention to the fact that the capacity of the All-American Canal is 10,000 cubic feet per second. The lands under that canal, including the Coachella area—about 1,000,000 acres or slightly under—are irrigable areas if there is water for them.

The amount of water that that canal could divert with a capacity of 10,000 cubic feet per second, in accordance with the way the Imperial irrigation district is using its water at present time—I mean seasonal distribution—20 percent of the total annual amount being used in the maximum month of use, 19 percent in the next maximum month—would be 6,000,000 acre-feet, which is, again, 6 acre-feet per acre for a million acres of land. So it appears that again it was assumed that there would be a return from the area which was comparable with the present return from this area which is $2\frac{1}{2}$ acre-feet per acre.

Now, I just pose this question from a common-sense viewpoint: If there is diverted to California lands 2,500,000-feet, and there is a million acre-feet of that at the present time returning to the Salton Sea, why will there not be at least 834,000 acre-feet returning from a diversion to Arizona lands of 2,571,000 acre-feet? I do not think we have to go into fine-spun engineering theories to find the answer.

Senator DOWNEY. Mr. Chairman, do you desire us not to ask questions as the witness proceeds?

The CHAIRMAN. I thought we would not question him until we adjourned.

Senator DOWNEY. Very well, sir.

Mr. TIPTON. Now, as a part of return flow, it must be understood that there are what are called wastes. I choose to call them regulation losses. "Waste" is an odious word when we are dealing with water. There must be a certain amount of water in a canal to carry the balance of the water through to the end of the canal. It is impossible to carry to the end of the canal the exact amount that is going to be needed at that point. So we necessarily have to have regulation returns. That is a part of the water that at the present time is going to the Salton Sea. That is the part of the water that will be returned from the Arizona diversion.

Now, as an example of the difference between this and how a misconception might arise, Mr. Dowd testified that at the present time the return flow from the Yuma project is only something over 100,000 acre-feet. I concur in that. I concur in that insofar as seepage is concerned—the return that is getting back as percolating water.

In addition to that there are these regulation returns, amounting to 103,638 acre-feet. This was in the year 1942. The seepage return was 113,230 acre-feet, making a total return of 213,930 acre-feet instead of slightly over 100,000 that Mr. Dowd mentioned. I am stressing that because of the fact that the so-called regulation return is important.

Now, let us see what the situation was when the Alamo canal was being used for the carriage of both American water, or United States water, and Mexican water. The Mexican water was taken out first. The United States water formed the carriage water for the Mexican

water. Mr. Lawson has testified, I believe that the over-all loss there was thirty-odd percent. When the two blocks of water are divorced, and the American water is now being carried through the All-American Canal and Mexican land is being served through the Alamo canal, we then have a true measure of how much water the Mexican lands require to be diverted from the river.

I want to make it plain that all past reports on the use of water by Mexico have been in terms of the net amount of water that has been released from the main canals to the laterals serving Mexican lands. There is nothing wrong with that method of accounting. That was the method of accounting most convenient for use by the Imperial district and the subsidiary district, because the payments were made in accordance with those deliveries. There was no necessity of making any estimates of how much water was diverted from the stream itself for Mexico.

But what is the situation now, when the two are divorced? We have a good measure of what is required for the Mexican lands in terms of diversion from the river. The maximum area that Mexico had in cultivation under the Alamo canal prior to Boulder Dam, as I understand it, was 228,000 acres. I shall later on mention some testimony that Mr. Dowd gave at one time, showing that in the year 1925 it was 217,000 acres. Mr. Lawson testified that the present area under the Alamo irrigated in Mexico is slightly under 200,000 acres. Now, the diversions from the river for the benefit of that slightly less than 200,000 acres is about 1,100,000 acre-feet. If the actual release to the laterals is some 750,000 acre-feet, as it has been testified it was before Boulder, that would show a loss of about 32 percent, which is not at all unusual—not just evaporation and seepage loss, but evaporation, seepage and regulation return.

So there is being diverted from the river for the benefit of Mexican lands, the area of which is not far different from what it was at its maximum during pre-Boulder days—as a matter of fact, a somewhat less area—1,100,000 acre-feet.

We can, I think—again just using common-sense methods—conceive about what the Mead offer would have meant. We could conceive its effect today if it had been accepted back in 1929, Boulder Dam in operation. It would permit the delivery of water to Mexico as she needs it—that is virtually what has been done during the last 2 years—for an area of 200,000 acres. So the diversion has been 1,100,000 acre-feet, both in the year 1943 and the year 1944. That, to all intents and purposes, would illustrate what the Mead plan would be, in effect.

The Mead plan, properly so—and the spirit of it—was to protect the then-existing uses in Mexico—the civilization that existed; in other words, to protect the irrigation of some 217,000 or 228,000 acres of land. It is requiring at the present time a diversion from the river of 1,100,000 acre-feet to do that. So that would be the Mead offer put into effect at this moment.

Senator DOWNER. Just to clarify it, plus the return flow?

Mr. TIPPON. I am coming to that.

Now, in addition, Mexico is receiving everything else that goes down below the point of diversion which Mr. Mead suggested they would receive. I shall quote again from his offer, because it is direct:

The quantity of the water to be delivered to Mexico by the United States under this proposal, does not, however, represent all the water Mexico will receive,

because whatever flows down the Colorado in excess of the consumptive uses of the United States must in the future, as in the past, cross the boundary into Mexico and be available for use there. It will undoubtedly be an important factor in further irrigation development in Mexico, but the use of this surplus water in Mexico cannot be regarded as establishing a right to such water as against the United States.

Mexico is receiving that at the present time, and she is using it to the extent to which Mr. Lawson testified, 600,000 or 700,000 acre-feet, with the possibility, of course, that she will increase that use.

Engineers of the Bureau of Reclamation studying this problem—and they will be here, I think, to testify—estimate that under the most unfavorable combination of circumstances the maximum water that will have to be brought down under ultimate conditions to Imperial Dam to satisfy the Mexican burden will be 600,000 acre-feet. The Mead offer would have meant at least 1,000,000 acre-feet at that point.

Now, just to close this portion of my testimony, the reason I say that the Mead offer in its exact terms here in the agreement would not have been as good for the United States nor as good for Mexico as this treaty is on account of the uncertainty of return flow.

You have heard testimony here with respect to the return flow. In the engineers' minds it is uncertain. I cannot consider it particularly uncertain in my own mind, considering what happens in the Imperial irrigation district and also what I know happens on other projects throughout the irrigated West. However, it is an uncertain item. Mexico could not, and I think would not, accept an indefinite quantity of water. Although Mr. Mead said:

It will undoubtedly be an important factor in further irrigation development in Mexico—

he did not guarantee it. Mexico could not accept that. I do not think I would, if I were representing Mexico, agree to that kind of indefinite proposition, particularly because I would not know what the development in the United States might be or where it might be. The upper basin might make unusually large transmountain diversions. In the lower basin, some of the proposed development might prove to be unfeasible.

Senator McFARLAND. What type of water is being delivered in the 750,000 acre-feet?

Mr. TIPTON. Just water.

Senator McFARLAND. Could not return flow be counted in that?

Mr. TIPTON. Any return flow reaching Imperial Dam; yes, sir.

Senator McFARLAND. Oh, it was from Imperial Dam?

Mr. TIPTON. Yes, sir; we assumed it was from Imperial Dam.

Senator McFARLAND. How was it to be delivered?

Mr. TIPTON. We assumed it would have to be delivered through the All-American Canal, because the All-American Canal plans had already been projected, and that would have been the most convenient means; otherwise it would have been delivered through the Alamo Canal at Rockwood Heading—Andrade.

Senator McFARLAND. Why would not return flow be counted against that just the same as—

Mr. TIPTON. It would to the extent that it arrived at that point, but most of the return flow gets to the stream below that point and that is the return flow we are talking about.

Senator McFARLAND. Where was the point of delivery here?

Mr. TIPTON. We are assuming it would have been through the All-American Canal. That certainly would have been the logical point. I will expand on that in my future testimony.

Just one other point. The Mead offer would not have been good for the United States, in my opinion, again on account of the indefiniteness of that return flow, that amount of water that might have got down there. It was said:

It would undoubtedly be an important factor in further irrigation development in Mexico.

That would have given Mexico encouragement to exploit that type of water to the limit and then at some future date come in and say, "We do have a right to that despite the disclaimer in the offer."

This treaty makes it definite both for the United States and Mexico: a total of 1,500,000 acre-feet, not 1 acre-foot less, not 1 acre-foot more.

This is a good stopping point, Mr. Chairman.

The CHAIRMAN. We will recess until tomorrow morning at 10:30. (At 4:50 p. m. an adjournment was taken until Friday, February 9, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

FRIDAY, FEBRUARY 9, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room, the Capitol, Senator Tom Connally (chairman) presiding.

Present: Senators Connally (chairman), Thomas of Utah, Pepper, Green, Tunnell, Hatch, Johnson of California, La Follette, and Wiley.

Also present: Senators Downey, Hayden, McCarran, McFarland, Millikin, and Murdock.

The CHAIRMAN. Let the committee come to order.

Come around, Mr. Tipton. I want to see how long it is going to take this witness. After he finishes we will hear Arizona. How long will it take you, Mr. Tipton, to finish up?

Mr. TIPTON. I think, sir, about 2 hours.

The CHAIRMAN. What!

Mr. TIPTON. Two hours, without questioning.

The CHAIRMAN. You have been on once, and you want to testify 2 hours more?

Mr. TIPTON. Yes, sir; I think that is what I am down for.

The CHAIRMAN. Then you will have to wait.

Mr. TIPTON. Very good, sir.

The CHAIRMAN. We will call Arizona. I am asking Mr. Tipton to stand aside for the reason that we promised to hear these two Arizona men this morning. When they are through we will go on with you, Mr. Tipton.

Mr. TIPTON. Thank you, very much.

The CHAIRMAN. And we hope you will revise your watch in the meantime.

ARIZONA

STATEMENT BY VICTOR CORBELL, MEMBER OF THE BOARD OF GOVERNORS OF THE SALT RIVER VALLEY WATER USERS ASSOCIATION

Senator HAYDEN. Mr. Chairman, we would like to present Mr. Corbell. Please state your name, Mr. Corbell, and your connection with the Salt River Valley Water Users Association.

Mr. CORBELL. Mr. Chairman, and members of the committee, my name is Victor Corbell. I am a member of the board of governors of the Salt River Valley Waters Users Association. The board of gov-

nors in our association corresponds to the board of directors of an irrigation district. Myself and wife own and operate approximately 320 acres of land in the Salt River project. I have lived there most of my life.

The Salt River project is a Federal reclamation project, and one of the oldest in the United States. There are approximately 250,000 acres of highly cultivated land within its borders that now produce annually crops in excess of \$30,000,000.

The city of Phoenix and most of the smaller cities and towns of central Arizona are within its boundaries. It is the heart of central Arizona and comprises the greater part of Maricopa County, both in population and wealth; that county, in turn, has nearly 40 percent of the population of the State within its boundaries and nearly that much of the wealth.

I am merely mentioning these facts to show the importance of this project in the affairs of the State. There are four other smaller projects that surround us that are irrigated in part by gravity and part from pumps. Three of those projects get part of their supply of water from either within or through the works of our project. There are several thousand acres of land adjacent to our project that receive their supply of water from pumps. Adjacent to us on the south and in the same central valley is the San Carlos project under the jurisdiction of the Indian Bureau. There is approximately 100,000 acres within the boundaries of the project. Adjacent to that project is what is known as the Casa Grande Valley, in which there are thousands of acres of land under cultivation through the use of deep irrigation wells. In this entire area of south central Arizona, excluding the area around Yuma in the southwestern part of the State, there are from 750 to 800 thousand acres of land under cultivation, all without a sufficient supply of water.

Our project has the best supply, but with the increased use to which the land is being put, and with the growing of vegetables, and double-cropping, the shortage of water is ever becoming more acute. The association until now has been consistent with its policy of keeping out of the controversies involving the Colorado River. The prospective development of the Colorado River is going to affect the association, and if the proposed treaty between the United States and Mexico is ratified, it could and might seriously affect the water supply of our association.

I am not a lawyer and I am not going to discuss the legal points. I am told that the treaty provides that the Commissioners can supply Mexico from the Colorado River and its tributaries with water from any and all sources. All of our water comes from the tributaries of the Colorado River. Our oldest appropriated rights date back to the year 1869. The building of the Roosevelt Dam was commenced in 1903 and water from storage was first available about the year 1910. The exterior boundaries of the project have not been enlarged since it was formed in 1902.

We think that any treaty made with Mexico should protect our existing vested rights.

The only practical way that future development can be made in central Arizona is for the association to agree to release part of its present supply of water to other projects and to agree to receive in

return therefor Colorado River water. The waters of the Colorado River, I am told, contain approximately twice the salt content of those of our project. We naturally cannot agree to such substitution if we only receive the same amount of inferior water to that which we now have, and at the same time agree to prorate that water with Mexico in time of shortage.

In an irrigated country like ours in Arizona, land has no value without water. It is your acre-foot of water that is the basis of wealth, and not the land. For every acre-foot of gravity water delivered to the Salt River project, it is producing at the present time over \$30 per acre-foot in crop values. Seven hundred and fifty thousand acre-feet which is proposed to give to Mexico over and above what she was using prior to the building of Boulder Dam if used in Arizona, would produce \$25,000,000 worth of crops annually. It would support another project three-quarters the size of ours. It has been said here that Arizona can either have water for central Arizona or for additional land in the Yuma area, but not both. Why can't we have both? Let us put this 750,000 acre-feet in the Yuma area where the land is still all public land and has been withdrawn from entry for veterans. I think that those boys who come back from across the seas are more entitled to it than Mexico.

The CHAIRMAN. How about California? You cannot put it in Arizona and California both at the same time. You are just talking about Mexico now?

Mr. CORBELL. I am testifying for Arizona here.

The CHAIRMAN. I understand, but you say, Why not put this 750,000 acre-feet in Arizona? Well, you cannot put it in Arizona and California both at the same time.

Mr. CORBELL. Put it in any one—any State, outside of Mexico.

The CHAIRMAN. I know you can, but you want it all for Arizona?

Mr. CORBELL. Yes; naturally.

The CHAIRMAN. I thought you were lined up with California, but you are departing from them now.

Mr. CORBELL. No; I do not think we are lined up with California on this Mexican treaty.

The CHAIRMAN. All right; go ahead.

Mr. CORBELL. Mexico at the present time has millions of acres of fertile land susceptible of irrigation and millions of acre-feet of water that has never been put to beneficial use. I am opposed to building a reclamation project, including storage for Mexico at the expense of the United States and at the expense of homes for our returning veterans.

Everything possible should be done to discourage the use of water in Mexico above 750,000 acre-feet. But in this treaty everything possible is being done to encourage the use of water in Mexico from the Colorado River. If the Senate ratifies this treaty, it will encourage the Mexican Government to use millions of acre-feet of additional water and acquire by use much of the surplus waters of the system.

The CHAIRMAN. Wait, right there. Do you mean that in spite of the treaty they could acquire a right to more than 1,500,000 acre-feet of water?

Mr. CORBELL. That is my opinion, sir.

The CHAIRMAN. Is that your opinion?

Mr. CORBELL. I think that by use they will acquire it.

The CHAIRMAN. In spite of the treaty which says they cannot demand but 1,500,000 acre-feet?

Mr. CORBELL. Let me say, there, in our own particular project——

The CHAIRMAN. Now, let us forget your project and talk about this treaty. I am talking about the treaty. You have read the treaty, have you not?

Mr. CORBELL. A good big part.

The CHAIRMAN. Well, have you read that part of it?

Mr. CORBELL. Oh, yes.

The CHAIRMAN. Well, does it not say that Mexico cannot under any circumstances demand more than 1,500,000 acre-feet?

Mr. CORBELL. That is what it says.

The CHAIRMAN. Well, what does it mean, if it says that?

Mr. CORBELL. It means that. However, I was going to relate an experience we had similar to that in our own particular project in World War I. The Secretary of the Interior told us to put 23,000 additional acres into cultivation for the production of foods, and it was to go out at the end of the war. We stopped the delivery of water, and they took it into court, and the court ruled that they had established a water right, and today they are in cultivation, and today we are suffering from that very fact that we did take in that additional land.

Naturally we have a right to fear as to what might happen if they began to build up a large community there and then we try to take it from them.

Senator MILLIKIN. Mr. Chairman, may I ask a question, please?

The CHAIRMAN. Yes, Senator.

Senator MILLIKIN. Are you familiar with the Colorado River compact?

Mr. CORBELL. Not all of it.

Senator MILLIKIN. Do you know that the compact allocates the waters of the Colorado as between upper and lower basins?

Mr. CORBELL. Yes.

Senator MILLIKIN. And that it specifies certain definite acreage feet to the upper basin and to the lower basin?

Mr. CORBELL. Yes.

Senator MILLIKIN. Would you say that your argument is equally good as against the upper basin, from the lower basin's increased use beyond the figures of the allocation made by the compact?

Mr. CORBELL. If I get you right, you mean that if other lands, other than Mexico——

Senator MILLIKIN. Supposing that California went ahead and expanded her use, as she could, under the surplus waters that are now in the stream; could she build up a user that would work against the allocations made in the Colorado River compact?

Mr. CORBELL. I think so.

Senator MILLIKIN. Then the compact is no good, and the proposed treaty would be no good, and there is no agreement that you can make that would be any good.

Mr. CORBELL. Well, I think that in this treaty you should stipulate that Mexico cannot use more than the 750,000 acre-feet, keeping out the additional lands that would come under water.

Senator MILLIKIN. And may I suggest that that is like the fellow who hedged on a contract because it did not use the word "absotively."

The CHAIRMAN. Go ahead; you do not have to answer that question. [Laughter.]

Senator WILEY. Positively not.

Mr. CORBELL. That's pretty definite, that "positively." There could be a lot of meanings also to "extraordinary."

The CHAIRMAN. Now, if you answer that you may have another one.

Mr. CORBELL. All right; skip it.

The CHAIRMAN. Go on and testify.

Mr. CORBELL. The United States will simply be doing, in my opinion, that which the proponents of this treaty are here accusing California of doing and attempting to do. I think that would probably answer your question.

The CHAIRMAN. I have not heard anybody accuse California of anything. You are back on the trolley now with California, are you not?

Mr. CORBELL. Yes; we are back.

Now, I will not take much more of your time. I want to say that a resolution was adopted by our board of governors, and, if I may, read it.

The CHAIRMAN. Yes; read it.

Mr. CORBELL. The resolution is as follows:

RESOLUTION OF THE BOARD OF GOVERNORS OF SALT RIVER VALLEY WATER USERS ASSOCIATION

Whereas this board of governors of Salt River Valley Water Users Association authorized the following of its members, V. I. Corbell, J. A. Sinnott, H. C. Dobson, and J. H. Evans, to represent the said association at the meeting held in Las Vegas, Nev., on January 12 and 13, 1945, in opposition to the proposed treaty with Mexico relating to the allocation of the waters of the Colorado River; and

Whereas there was adopted at said Las Vegas meeting a resolution in opposition to the proposed treaty with Mexico which said resolution was supported by the aforesaid members of this board of governors; Therefore be it

Resolved, That the action of the aforesaid members of this board of governors in voting at the Las Vegas meeting for the adoption of the resolution in opposition to the proposed treaty with Mexico be and it hereby is declared ratified.

CERTIFICATE

I, F. C. Henshaw, the duly appointed and acting secretary of Salt River Valley Water Users Association, hereby certify that the above and foregoing is a true, correct, and complete copy of a resolution duly adopted at a meeting of the board of governors of said association duly and regularly held on the 5th day of February 1945, at which said meeting a quorum was present.

F. C. HENSHAW, *Secretary*.

Mr. Greig Scott, our general counsel, will give you in detail the objections which we have to this treaty. Mr. Scott has been practicing law in Arizona for 28 years. He is a former partner of the late Judge Richard E. Sloan, the judge who wrote much of the water law of our State. His firm has been engaged almost continuously with water litigation over its 28 years of practice. He has been the association's general counsel for the last 12 years and much of his time has been spent in water litigation.

Also, Mr. Scott and myself will be unable to remain here through these hearings, and our special counsel, Mr. Northcutt Ely, will be here and, if occasion arises, will express the views of the association,

and particularly as to any reservations or changes in this treaty, he will represent us.

The CHAIRMAN. All right.

Mr. CORBELL. At this time I would like to have Mr. Scott testify.

The CHAIRMAN. Well, just wait; you are not through yet. You have got to be cross-examined. Senator Hayden, do you have any comment to make or any questions to ask?

Senator HAYDEN. No; I think Mr. Corbell has stated the formal position.

The CHAIRMAN. Senator McFarland?

Senator MCFARLAND. No.

The CHAIRMAN. Senator Downey?

Senator DOWNEY. No questions.

The CHAIRMAN. Senator Hatch?

Senator HATCH. No questions.

The CHAIRMAN. Senator Wiley?

Senator WILEY. None.

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. If I may, I should like to ask a question, please. I am sorry I was a few minutes late. I do not know whether you stated whether the governor of your State is for or against the treaty?

Mr. CORBELL. From all indications he is for the treaty.

The CHAIRMAN. May I ask you what is the attitude of your State legislature?

Mr. CORBELL. They sent, I think, a memorial here stating that they were for it. However, I talked to many of them and they admitted they did not know much about it and would like to have heard more, and they were kind of resentful that they did vote so hurriedly on it.

The CHAIRMAN. Resentful toward themselves?

Mr. CORBELL. Toward themselves.

The CHAIRMAN. For voting for the resolution?

Mr. CORBELL. Yes; for not knowing more about it.

The CHAIRMAN. They could rescind it if they wanted to, could they not?

Mr. CORBELL. I guess they could, if they had enough votes.

The CHAIRMAN. What was the vote in the two houses of the Arizona Legislature on the treaty?

Mr. CORBELL. I think it was a majority vote.

The CHAIRMAN. Did not both houses vote with only one dissenting vote in one branch, in favor of the treaty?

Mr. CORBELL. I think so. It was brought up right at the very beginning.

The CHAIRMAN. I do not care when it was brought. Answer it, and then explain.

Mr. CORBELL. That is correct.

The CHAIRMAN. The two Houses in Arizona voted in favor of ratification of the treaty with the exception of one vote in the House, I believe it was—either in the House or in the Senate—is not that right?

Mr. CORBELL. I know it was ratified by them. As to the majority, I do not know.

The CHAIRMAN. All right. Now you may explain if you want to.

Mr. CORBELL. We visited out there and talked to many of them and I think many of them did not know much about what they were voting on and had not heard our expressions on it.

The CHAIRMAN. Of course that is in violation of the old rule that a jury cannot impeach its verdict, is it not?

Mr. CORBELL. That is right.

The CHAIRMAN. Go ahead. I do not want to cut you off.

Mr. CORBELL. Well, I think I have finished.

The CHAIRMAN. It seems to me your error was not seeing them before they passed the resolution instead of after they had passed it.

Mr. CORBELL. The only thing is, this was a political football in our State for quite a while, and we are usually not consulted on a lot of those things, the real water users.

The CHAIRMAN. You mean the legislature permitted it to be made a football? Of course they did.

Mr. CORBELL. The Colorado River——

The CHAIRMAN. Oh, they did?

Mr. CORBELL. Yes.

The CHAIRMAN. They seemed to have you outvoted, though.

Mr. CORBELL. That is right.

The CHAIRMAN. So you are in the minority?

Mr. CORBELL. We are in the minority.

The CHAIRMAN. Senator La Follette? I missed you.

Senator LA FOLLETTE. No questions.

The CHAIRMAN. Senator Murdock?

Senator MURDOCK. No questions.

The CHAIRMAN. Let me ask you, how much water is your district using now in acre-feet?

Mr. CORBELL. We use about 1,100,000.

The CHAIRMAN. You get that from your own river?

Mr. CORBELL. We get about 750,000 from the Verde and the Salt River, and we pump 300,000 to 400,000.

The CHAIRMAN. Where?

Mr. CORBELL. In our own territory.

The CHAIRMAN. You have wells?

Mr. CORBELL. Yes, sir; we have about 230 large irrigation wells.

The CHAIRMAN. If you keep that up you will still have all that water, will you not, regardless of what happens on the Colorado River?

Mr. CORBELL. Unless they tell us to turn some down, or we get into an exchange, and this treaty goes through.

The CHAIRMAN. I want to ask you, you said a while ago that expansion would compel the Salt River project to give some to these other districts. Who has any authority to make you give up any water to these other districts?

Mr. CORBELL. Well, if we do not——

The CHAIRMAN. Well, wait; answer that and then explain. Is there any authority now that can come here and take water from you and give it to some other district?

Mr. CORBELL. We do not think so.

The CHAIRMAN. Well, I would not think you would.

Mr. CORBELL. We have had a lot of litigation over that, and spent a lot of money to try to retain it.

The CHAIRMAN. You have won out, have you?

Mr. CORBELL. This far.

The CHAIRMAN. This far?

Mr. CORBELL. Except the 23,000 acres I was telling you about.

The CHAIRMAN. Oh, well that was out of World War I?

Mr. CORBELL. But, of course, it is still there.

The CHAIRMAN. The equity in the use of the water is still there?

Mr. CORBELL. Not so much water, but we had to take off 23,000 acres more, which has today cut our supply down considerably, to where we do not have enough for maximum production.

The CHAIRMAN. In order to get water out of the Colorado you would have to pump?

Mr. CORBELL. Yes.

The CHAIRMAN. You would, would you not, for your project?

Mr. CORBELL. It would have to be pumped partly.

The CHAIRMAN. You could build a canal?

Mr. CORBELL. A tunnel.

The CHAIRMAN. You would have to have a tunnel?

Mr. CORBELL. We would have to have a tunnel through the mountain, or pump it.

The CHAIRMAN. A tunnel would be very expensive, would it not?

Mr. CORBELL. Pretty expensive.

Senator HATCH. Were you present at the hearing before Senator McFarland's committee in Phoenix this summer?

Mr. CORBELL. No; I was not.

Senator MILLIKIN. Mr. Chairman.

The CHAIRMAN. Yes.

Senator MILLIKIN. Do you have an official water board in Arizona?

Mr. CORBELL. I think the man is O. C. Williams, the land commissioner. That, I would not know, exactly, but I think that is the way it sets up.

Senator MILLIKIN. Is that for or against the treaty?

Mr. CORBELL. He is for the treaty.

The CHAIRMAN. Let me ask you one question. I do not want to prolong your testimony. You say that you are afraid if the treaty is ratified that Mexico will go on putting in new land and thereby acquire a right to more water than the 1,500,000; is that right?

Mr. CORBELL. Yes, sir; that is right.

The CHAIRMAN. Well, suppose we do not have any treaty; what about that? Could she go on without a treaty and put in thousands of acres more of land and acquire a water right to that additional territory?

Mr. CORBELL. She is acquiring 700—

The CHAIRMAN. Now, answer that, and then explain. Could she do that?

Mr. CORBELL. I think she could by use.

The CHAIRMAN. You think she could? So that if we do not approve the treaty and say that she cannot have but 1,500,000 acre-feet, she might expand her uses to 2,000,000 or 2,500,000, and you think she would have a right to that water; is that right?

Mr. CORBELL. She would have a right if we would turn it down to her, and she would continue using it.

The CHAIRMAN. Oh, well, you know what I am trying to ask you. You based your argument a while ago on the thesis that if we adopted

the treaty she could disregard the 1,500,000 and go on and put in other lands in addition to that, and thereby acquire a right. Now, did you not say that?

Mr. CORBELL. That is right; I said that.

The CHAIRMAN. All right. If she did not have any treaty couldn't she do the same thing?

Mr. CORBELL. She could; yes.

The CHAIRMAN. Yes.

Mr. CORBELL. But in this treaty—

The CHAIRMAN. Well, you cannot take the treaty and not have it. Either you have got to have the treaty or not have it. All right, I am assuming you do not have any treaty; what could she do?

Mr. CORBELL. She could go on with her development; but I do not think she could go on with her development, unless we have her permission to build her dam and we delivered her water out of the All-American Canal.

The CHAIRMAN. If she had her own dams in Mexico, she could, couldn't she?

Mr. CORBELL. She can retain there the dams.

The CHAIRMAN. Well, I do not know; the engineers say she cannot, and you say she can?

Mr. CORBELL. I know the Imperial Valley tried many, many times to retain water there and could not.

The CHAIRMAN. She could pump it, could she not?

Mr. CORBELL. She could pump it, but that is probably a lot of water to pump, and expensive.

The CHAIRMAN. That might be, but she could do it, could she not?

Mr. CORBELL. She could; yes.

The CHAIRMAN. Well, all right; if she could not do it without the treaty, how could she do it with the treaty? If she could not put the dam across the river without a treaty, she could not put it on the river with a treaty, could she?

Mr. CORBELL. That is true; but we are guaranteeing twice as much water as she is using there.

The CHAIRMAN. No; we are not guaranteeing. We say that if the water is available she can have the 1,500,000; if it is reduced by drought, we reduce it for both.

Mr. CORBELL. Extraordinary droughts.

The CHAIRMAN. But the purpose of my question is, you say that if we adopt the treaty she can go on putting in new land and thereby acquire water rights that we would have to respect. You said that, did you not?

Mr. CORBELL. I do not say we would have to respect them.

The CHAIRMAN. Well, they are not rights unless we have to respect them, are they?

Mr. CORBELL. No; they are not rights unless we respect them.

The CHAIRMAN. You said "rights." You said they would acquire water rights and thereby cut down our water rights; did you not say that? I am just trying to get your viewpoint, that is all.

Senator JOHNSON of California. What State is this?

The CHAIRMAN. Arizona.

Senator JOHNSON of California. This is an adverse witness.

Senator HAYDEN. I suggest we hear Mr. Scott.

The CHAIRMAN. All right. Are you through?

Mr. CORBELL. Yes; I am through.

The CHAIRMAN. All right.

Mr. Scott, come around.

Senator MCFARLAND. Mr. Chairman, Mr. Scott has already been introduced.

(Discussion off the record.)

STATEMENT OF GREIG SCOTT, GENERAL COUNSEL, SALT RIVER VALLEY WATER USERS ASSOCIATION

The CHAIRMAN. The next witness is Mr. Greig Scott, general counsel of the Salt River Valley Water Users Association.

Have a seat, Mr. Scott. You may stand if you want to, but this is not a court, and you are not before a jury.

Senator MCFARLAND. Mr. Scott had a case before me at one time that lasted 3 months, so he can stand if he wants to.

Mr. SCOTT. But you did on occasion ask me to sit down, Judge. [Laughter.]

The CHAIRMAN. All right, Mr. Scott.

Mr. SCOTT. First, Mr. Chairman, I should like to submit for the record a resolution adopted by the board of governors of the Salt River Valley Water Users Association authorizing my appearance before this committee.

The CHAIRMAN. Very well. Let it appear in the record.

RESOLUTION OF THE BOARD OF GOVERNORS OF SALT RIVER VALLEY WATER USERS ASSOCIATION

Resolved by this board of governors of Salt River Valley Water Users Association, That Greig Scott, legal adviser, be and he hereby is authorized to appear before the committee of the United States Senate and present the views of the said association in opposition to the proposed treaty with Mexico relating to the allocation of the waters of the Colorado River.

CERTIFICATE

I, F. C. Henshaw, the duly appointed and acting secretary of Salt River Valley Water Users Association hereby certify that the above and foregoing is a true, correct, and complete copy of a resolution duly adopted at a meeting of the board of governors of said association duly and regularly held on the 5th day of February 1945, at which said meeting a quorum was present.

[SEAL]

F. C. HENSHAW, *Secretary.*

Mr. SCOTT. Next, I should like to read a telegram that I have received from the Gila Valley irrigation district.

The CHAIRMAN. All right.

Mr. SCOTT (reading):

SAFFORD, ARIZ., February 6, 1945.

GREIG SCOTT,
University Club:

We hereby endorse the resolutions adopted by representatives of the actual water users of the Colorado River Basin at Las Vegas, Nev., of January 13, and petition the Senate of the United States to disapprove the Mexican water treaty now being considered.

GILA VALLEY IRRIGATION DISTRICT,
• W. E. WALDRON, *President.*

Mr. Chairman, and Senators, as Mr. Corbell has already told you, I am general counsel of the Salt River Valley Water Users Associa-

tion. We appreciate the opportunity at this time to present our views on the Mexican treaty. Mr. Corbell, a member of our board of governors, has told you with regard to the position our association bears on the affairs of the State of Arizona. Leaving out irrigation from the main stream of the Colorado River, between two-thirds and three-fourths of all the gravity water used for irrigation in the State of Arizona is used on our project. Approximately one-third of the irrigated land of the State is within the boundaries of our project and it certainly represents better than half of the taxable irrigated land values of the State. These figures are exclusive of land irrigated from the main stream of the Colorado River. That amount at present is small. There are approximately 60,000 acres in the Yuma project and some other small areas along the Colorado River that are irrigated.

This treaty is of extreme importance to us. The treaty, if ratified, will have done something that is for all time to come. It is not like a law that can be repealed or amended, and any changes once it is ratified can only be made through negotiations with the Mexican Government.

I am handing you an artist's conception of central Arizona. It is an excellent map, and is used extensively as exhibits in litigation in central Arizona.

The CHAIRMAN. You may leave that with us. We cannot print it, but we will keep it on file constantly and refer to it.

Mr. SCOTT. Yes, sir. The area depicted on this map is roughly 150 miles square, and it is within this area that the contemplated future diversions of the water of the Colorado River into central Arizona will be used. I might add that that does not show the extreme eastern part, where some 50,000 acres are irrigated.

Eastern, central, and southern Arizona are drained by the Gila River and its tributaries. In size the Salt River is much larger, but from the junction of the two rivers west, it is known as the Gila. The Gila River rises in western New Mexico and flows through southern Arizona. The first irrigation of any consequence from that river is in what is known as the Safford Valley in Arizona, where some 50,000 acres are irrigated. That is not shown on that map; it is in the east.

There is no storage on the Gila River above this point, and the lands are irrigated from a number of small diversion dams. This valley experiences water shortages in the summer months. Below this valley on the Gila River is the Coolidge Reservoir. The water from this reservoir irrigates what is known as the Coolidge or San Carlos project. There are 100,000 acres in this project, half of this land belonging to white settlers and half to Indians. The capacity of the reservoir is approximately 1,200,000 acre-feet, and the annual yield is something less than 300,000 acre-feet. The reservoir has never overflowed, and there is little likelihood that it ever will, due to the fact that the capacity of the reservoir is in excess of the probable flood flows of the river. This project has a wholly insufficient supply of water.

Immediately below this reservoir there enters the Gila River what is known as the San Pedro River. The flow from that stream is intermittent and small and is largely used by the San Carlos project. From that point on the river to its junction with the Salt River, some

5 miles below Phoenix, the Gila River is dry the greater part of the year. The Salt River project is irrigated from the Salt and Verde Rivers, the two rivers coming together some 30 miles above Phoenix and some 3 miles above the diversion dam of the Salt River where the water is taken out to irrigate the Salt River Valley project.

On the Salt River are four reservoirs with a capacity of better than 1,750,000 acre-feet. The largest and best known of those reservoirs is Roosevelt Dam.

The Verde River has two storage reservoirs. The total capacity of all the reservoirs is a little in excess of 2,000,000 acre-feet.

Accurate records of the flow of these rivers have been kept since January 1, 1889; except for rare periods of extreme floods, no appreciable amount of water has passed or will in the future pass our diversion dam on the Salt River.

On the west side of the Salt River project is what is known as the Agua Fria River. On that river is a storage reservoir that irrigated the lands in the irrigation district commonly known as the Beardsley project. No flood flows will pass down that river except in rare years of extreme flood flow.

The Salt River, the Gila River, and the Agua Fria River come together within a mile of each other. Immediately below their junction, the Buckeye Irrigation District, a project comprising some 20,000 acres, has a diversion dam and takes out return flow water from those three rivers, which irrigates that project.

Some 20 miles to the west, the Hassayampa River enters the Gila River. That river is small and its average flow is in the neighborhood of 50,000 acre-feet, but its flow is extremely intermittent, in many years there being no water whatsoever from the river.

Some 35 miles below the Buckeye heading on the Gila River is another dam, known as the Gillespie Dam, which takes out all return flow on the river at that point to irrigate the Gillespie project. There are some 85,000 acres in that project, but only about fifteen to twenty thousand acres are being irrigated. A considerable part of the water used on that project is from wells. The reason that only that amount of land is being irrigated in that project is that that is all the water there is in the river. There is no other river entering the Gila River from the Gillespie Dam until it reaches the Colorado, a distance of something like 150 miles. The river is dry practically all the time. The area through which it flows, or should flow if there was any water in it, is largely a flat, sandy plain.

The Salt River project diverts on an average of approximately 1,100,000 acre-feet of water at Granite Reef Dam each year. Naturally, that varies from year to year, depending on the amount of water available. In addition to that the project has approximately 230 deep-well pumps scattered over the project, from which it pumps on an average of nearly 300,000 acre-feet of water per annum. The amount pumped each year also varies, but there have been times when it has approached the 400,000 acre-feet mark, and in wet years the amount has been correspondingly less. All of central Arizona is a vast alluvial plain. The land is extremely fertile and there is not sufficient water to irrigate the entire area. The entire flow of the Colorado River could be diverted into that basin and you would still have land left over.

I am not advocating that Arizona should have all of the Colorado River water.

The CHAIRMAN. What was that?

Mr. SCOTT. I am not advocating that Arizona should have all of the Colorado River water, any more than Texas should have all of the Rio Grande.

The CHAIRMAN. We do not get all of the Rio Grande.

Mr. SCOTT. I wish to exhibit to you a map showing the land in cultivation in that area. You will note the map is covered with spots. I wish to assure you that was not carelessness on the part of the draftsman using pen and ink. Each one of those spots represents the exact location of a deep irrigation well, costing approximately \$10,000 each. There are 1,700 of them on that map, representing a total investment of approximately \$17,000,000. The map does not cover all of the area. To the southeast the irrigated land extends up the Santa Cruz for some distance; in fact, to the Mexican border, and to the east the irrigated area extends to the Safford Valley, about which I have already spoken to you. In this area not shown on the map are approximately 300 additional wells. The area in green is land that has in whole or in part a gravity supply supplemented by pump water. The land in yellow has only a pump supply. On this map, together with the small areas not shown which I have just mentioned, are approximately 750,000 acres of cultivated land, all with an insufficient supply of water.

The Salt River project, which represents the great portion in the center, with the exception of the extreme eastern part, contains approximately 250,000 acres and has by far the best water supply. The amount of water that our project uses each year, measuring it at our diversion dam and at the pumps, is approximately 5.4 acre-feet per acre.

Our project could easily use an additional acre-foot per acre. The other land shown on that map could use an additional acre-foot and up to 2 acre-feet per acre. Not only could they use it, but a great part of that area must have it if they are to survive.

Senator WILEY. What would that total?

Mr. SCOTT. The additional water?

Senator WILEY. Yes.

Mr. SCOTT. At least 1,500,000 acre-feet additional per year, just for the land in cultivation. I do not advocate, if water is brought in from the Colorado River, that a single additional acre be taken into cultivation in central Arizona; it ought to be limited to the land now in cultivation.

Senator WILEY. I see.

Mr. SCOTT. The biggest curse there is in irrigated countries is just that—and it goes away back. The Euphrates Valley in Asia was an overdevelopment. Half a supply of water is worse than none. You will find that that is true, and that has been the trouble in the West. I am sorry to say that the Reclamation Bureau has in the past indulged in some of those practices of overdevelopment, not knowingly; but we know a lot more about water today than we did 20 or 30 years ago.

Senator WILEY. I think that that is a very sound reason. I have in mind that if in the future this country develops in population, we

might now be restricting by treaty the use of the water we might want for that population. We have got to consider that angle, too. In other words, Is there water available for an expansion in population in this area if we take it from the Colorado?

Mr. SCOTT. To the extent of the water remaining, that is all; and there is more land than there is water.

Senator HAYDEN. As chairman of a subcommittee under Senator George, of the Post-War Planning Committee, I directed the Reclamation Service to make an inventory of the water resources of the United States covering the entire arid region. The object was to show that there was a limited supply of water and an unlimited supply of land. There is an absolute limit to the future development of irrigation in the West. If we used every water resource we have on every stream west of the one hundredth meridian, we could probably double, but that is all, the irrigated areas in the United States.

Senator WILEY. I thank the Senator.

Senator HAYDEN. You will find that document interesting, if you look at it.

Mr. SCOTT. I may say to the Senator that the Middle West need have no fear of the West, so far as competition is concerned. Every year there are more and more products from Wisconsin that are being shipped into Arizona, even with our development going on. We do not supply enough butter or hogs or eggs for our own population.

Senator WILEY. I am grateful for that assurance.

The CHAIRMAN. How about cheese?

Mr. SCOTT. We cannot get any now except in rare instances.

The CHAIRMAN. All right.

Mr. SCOTT. The total flow of all the streams in the central Arizona basin will not exceed 1,700,000 acre-feet per annum. All of that water is diverted for irrigation use.

In connection with the Geological Survey, we have been making a long study with regard to the underground water in that area. During the past 2 years the amount of water that has been pumped in this area has been approximately 2,000,000 acre-feet per year. It is our belief that the amount of water entering into this underground basin each year does not exceed 750,000 acre-feet per year. In other words, pumping is going on at the rate of one and one-fourth million acre-feet per year in excess of the recharge. The depth to the underground water is progressively lowering and has been for years. There are places where the direction and the flow of the underground water has been completely reversed due to excessive pumping. The average pump lift on the project adjoining us on the east, namely, the Roosevelt Conservation District was approximately 60 feet, at the time the project was put into cultivation some 20-odd years ago. The average lift on that project today is in excess of 100 feet, and there are wells that I personally know of where the lift is over 200 feet. Men from the Geological Survey informed me within the past 30 days that several thousand acres have gone out of cultivation in the Casa Grande Valley in the Eloy area in the past couple of years due to the excessive lift of the water being pumped. This is occurring when prices are good. Unless central Arizona receives an additional supply of water, and receives it soon, a large area of land will of necessity have to go out of cultivation.

Senator DOWNEY. Do I understand from what you say that the economic lift in the wells is limited to about 200 feet, in your opinion?

Mr. SCOTT. It depends on the prices of farm products. It depends on what you are growing and your prices. I would say that that is about the economic lift with a single well. Where you pump larger quantities, you can lift higher.

Senator DOWNEY. Do you happen to know what is the maximum lift in the Salt River?

Mr. SCOTT. In our own project?

Senator DOWNEY. Yes.

Mr. SCOTT. In our own project it is a little over 100 feet.

Senator DOWNEY. Do you know what it is in the entire area?

Mr. SCOTT. No; I do not. We have not got that far with this study. We have a contract for this study with the Geological Survey. We each put up part of the money. But it is safe to say it is over 100 feet.

Senator DOWNEY. Do you happen to know that in the Central Valley project in California we are down as low as 300 feet in some places?

Mr. SCOTT. I saw a well in your Pomona area which was 700 feet, where the water used to be 60.

Senator DOWNEY. How far have they gone with their well lift in Lower California, Mexico? How deep do they go there?

Mr. SCOTT. I do not know, but I think from the very nature of the situation that the water is close and shallow.

Senator DOWNEY. Do you know whether they have any wells at all?

Mr. SCOTT. I have been told; that is all. I have been told that there are very good pumping areas back from the river. There are bound to be where you use water for irrigation and you have gravel underflow.

Senator DOWNEY. I understood that there was virtually no pumping from the underground storage in Lower California.

Mr. SCOTT. There is some down there, that Mr. Dowd spoke of. It is away down in there, but it is not in comparison with the amount of land watered by gravity.

Much has been said about the amount of return flow going into Mexico. As I have previously told you, there is approximately 1,700,000 acre-feet of gravity water used in central Arizona above Gillespie Dam. I have lived in Arizona for 30 years. In that time no return flow water has ever reached the Mexican border; in fact, no return flow water has ever got beyond a few miles below Gillespie Dam.

The CHAIRMAN. Do you mean out of your territory?

Mr. SCOTT. Yes, sir.

The Geological Survey measures the water that passes both in and over Gillespie Dam, and measures the water that passes the measuring station at Dome, about two-thirds of the distance between Gillespie Dam and the mouth of the Gila. I am putting into the record the Geological Survey records showing the water passing Gillespie Dam as well as the water passing Dome. In only 20 of the 120 months was there any measurable flow at Dome. We are now entering the forty-second consecutive month when there has been no flow at Dome whatsoever. The Geological Survey told me it was their one perfect recording station; no errors—42 months and no water.

The CHAIRMAN. It was not difficult to measure that, was it?

Mr. SCOTT. No.

The CHAIRMAN. A perfect station.

Mr. SCOTT. In the 55 years since records have been kept on the Salt River, the year 1941 was the second wettest in history. All of our dams filled up and overflowed that year for the first time in their history; 1,039,000 acre-feet passed over Gillespie Dam and yet, of that amount, only 589,000 acre-feet reached Dome. That all occurred in the 3-month period in the spring of the year when the river was in flood and it was raining a good deal of the time. It must also be remembered that these measurements at Dome include intermittent flash floods from off the desert. Although approximately 500,000 acre-feet disappeared into the river sands, out of a little over a million acre-feet passing over Gillespie Dam during 3 months in the spring of a wet year, in that section of the Gila River which is only a little over half the distance to the proposed Mexican diversion dam, yet Mr. Tipton and others would have you believe that after putting 1,500,000 acre-feet to beneficial use in central Arizona there would be a return flow of approximately half a million acre-feet which would reach the diversion dam into Mexico. I have discussed this matter with many eminent irrigation engineers who have spent years in Arizona, including among others Raymond C. Hill. It is their opinion, and mine, that there would be no return flow whatsoever from any given quantity of Colorado River water used in central Arizona even up to 1,500,000 acre-feet. I have here the Geological Survey records of the last 10 years with respect to the various amounts of water.

The CHAIRMAN. You may file them with the clerk.

(The document referred to is filed with the Senate Committee on Foreign Relations.)

Mr. SCOTT. If the return-flow water is good, Arizona can use it and wants it. If it is not good, its delivery to Mexico would be bad faith in carrying out an executed treaty, and a matter which that nation could legally appeal to any international tribunal to have it arbitrated. I say that it is legally presumed, in awarding to Mexico return-flow water, that the same is fit for beneficial use.

Again I wish to call your attention, gentlemen, to this map showing the acreage in cultivation in central Arizona and the location of the various wells. You will note that a great many of these wells are close to the Salt River. We can determine the amount of the return-flow waters by the amount of water that we pump. If we wished, we could absolutely dry up the Buckeye heading just below us, insofar as any return flow is concerned. The same thing can largely be accomplished on the lower Gila. Unquestionably, if Colorado River water is used on the land to the east of Yuma, ground water will rise and deep-well pumps will be installed to recapture and reclaim that water. Mexico and Arizona can largely reclaim all the return-flow water in the limitrophe section of the river by simply putting pumps fairly close to the river bank. Our experience is that such wells will draw water for a distance of a mile from the pumps. The reason for there being such a large amount of return flow of water in Imperial Valley is largely on account of the soil in that valley. After you get approximately 6 feet below the surface in the larger part of that valley, the soil is impervious, and water will not

penetrate it. The condition does not hold true on the Arizona side of the river.

Senator DOWNEY. Is the implication from that statement that Mexico could put pumps down close to the river and thereby reach the return flow, with the result that Mexico could thereby prevent our charging her with a large part of that return flow?

Mr. SCOTT. According to the treaty, yes. It is just water arriving in the limitrophe section.

Senator DOWNEY. In the channel of the river?

Mr. SCOTT. Well, the wording, I think, is "in the limitrophe section of the river."

Senator DOWNEY. What you are saying is—

Mr. SCOTT. I take that to be the channel.

Senator DOWNEY. Judging by experience in the Salt River, by putting wells down Mexico could exhaust a large part of that return flow through wells and not allow it to get into the channel of the stream.

Mr. SCOTT. Yes. I think it will be done largely on the Arizona side, myself.

Senator DOWNEY. Let us assume that the witnesses for the Department of State are not overoptimistic in saying there is not going to be over a million acre-feet return flow. You think a large part of that could be caught in those wells and not allowed to be counted against Mexico in the channel of the river?

Mr. SCOTT. We do not.

The CHAIRMAN. Of course, those wells that Mexico would drill would be down in Mexico?

Mr. SCOTT. Yes.

The CHAIRMAN. That water would have left the United States forever, would it not?

Mr. SCOTT. It would be in the limitrophe section of the river.

The CHAIRMAN. It would be in Mexico, would it not?

Mr. SCOTT. It would be in the 20-mile stretch of the river. One side is Mexico, and one side is Arizona.

The CHAIRMAN. I understand, but you said Mexico could not come over into the United States and drive wells?

Mr. SCOTT. Oh, no.

The CHAIRMAN. They would have to drive them in Mexico?

Mr. SCOTT. We could drill them on both sides.

The CHAIRMAN. I understand you could drill them in Arizona; but the Mexicans could not drill any except in Mexico?

Mr. SCOTT. That is true.

The CHAIRMAN. All right.

Mr. SCOTT. I have here the records showing the character of the water in the Salt River Valley insofar as salts are concerned. The average salt content of the water which we divert from Granite Reef Dam is approximately 400 parts per million. That varies from year to year, and from month to month. In dry years it is higher, and in wet years it is lower. The water in the Buckeye heading which is just below the Salt River project and is largely composed of return flow water, will average in the neighborhood of 2,500 parts per million. That also is subject to fluctuations and variations. Part of Buckeye's water comes from the Gila River. Part of it also comes from the Agua Fria River, and there may be at times temporary floodwater flow-

ing in both streams, which brings down your average salt content. The analyses of the water at Gillespie Dam, which we also keep, and which are shown by months for the past 10 years, will average approximately 3,500 parts per million. In the last few years it has been somewhat above that figure. There are a few months in which the analyses show more than 4,000 parts, the highest being in October 1942, with 4,332 parts per million. It must be remembered, however, that this return flow at Gillespie is diluted with pumped water. There are some 19 wells along the bank of its canal wherein the water will not average more than 1,000 parts per million. For the benefit of this committee, I might say that 730 parts per million of salt is equal to 1 ton of salt for each acre-foot of water. We bring into the Salt River Valley at Granite Reef approximately 500,000 tons of new salt each year. If we are to maintain a usable underground water, it is necessary that there pass out of the basin each year an equal quantity of salt, 500,000 tons, and you will note that the amount of salt in the return flow in terms of tons is not far short of the amount of salt which enters the river at Granite Reef. The Colorado River, however, contains much larger quantities of salt than the Salt River, the average being about 800 parts per million, which is twice the Salt River average. As the uses in the upper basin increases, the salt content of the remaining water will also increase.

That brings us to the question of when water becomes unusable. The Salt River project has done a great deal of research on that question. It varies with the kind of crops that you are growing, the time of year when water is used, and the manner in which you use it. Senator McFarland presided at a lawsuit lasting several months in which that question was involved. No water involved in that lawsuit analyzed more than 2,000 parts per million, and the general average was considerably less than half of that amount. And yet, after listening to the evidence, which included four of the half-dozen recognized national experts on the question, he decided that water from wells containing approximately 1,500 parts per million would not produce the same amount of crops as gravity water containing only approximately 400 parts per million, and that to get the same results it would require a 25-percent additional use of water.

I have his opinion here, if you would like it. It is long.

The CHAIRMAN. You say it is long?

Mr. SCOTT. Fairly so.

The CHAIRMAN. Put it in the record. I suppose the Senator remembers his decision.

Mr. SCOTT. He remembers the lawsuit. It was affirmed by the Supreme Court.

Senator McFARLAND. Mr. Scott, I did not hold that it would require 25 percent. I did not state any specified amount, did I?

Mr. SCOTT. You used the figure "25."

Senator McFARLAND. Did I? Go ahead. I think that was the testimony of Mr. Cragin.

Mr. SCOTT. That is what you used as a basis. Here is one of the original copies.

The CHAIRMAN. Put it in the record.

(The opinion and decision referred to appear at the end of Mr. Scott's testimony.)

Senator DOWNEY. I should like a copy of the judge's opinion, if you could let me have it.

Mr. SCOTT. This is the only one I have here with me; I will have some made.

The CHAIRMAN. It will appear in the record; but let him have it now if he wants to read it. It will be in the record.

Mr. SCOTT. It might change your opinion if you read it.

In that case, Judge McFarland held—and his opinion was affirmed by the Supreme Court and is now the law of Arizona—that you can compel an exchange of water. In other words, this was a group of lands within our project known as the Tempe area, that had old water rights. When we took them into the project, we had a lot of pumped water, so we put that pumped water in the general supply, and the gravity water naturally was lessened in that part of the project and ran elsewhere. These lands took all the pumped water we tried to give them in our offer—half the pumped water—and they complained that we had substituted one class of water for another and objected to both the substitution of quantity and quality. It was the ruling in that case that in the interest of the project as a whole, and their coming into the project, they would have to submit to that.

The CHAIRMAN. Exactly. They could not come into the project and stay out at the same time.

Mr. SCOTT. Now, if the United States asks us—and we are a reclamation project—to give up our water and let it go at a higher elevation on this river, to go to the Casa Grande Valley, and we in turn take Colorado River water at a lower point, they will use the *Adams case* decision by Judge McFarland to show their authority to do it, and in any contract that we will get from the United States, there will be written in a provision that the amount of water that we receive is subject to the Colorado River compact and the Mexican Treaty. That is the part we do not like. We do not like to give up the whole for a part.

Senator HAYDEN. Would not that depend on the kind of contract you had with the Secretary of the Interior? If it is substituted water, the contract, just as you said, it would have to operate that way. But, as I follow you, if the Salt River Water Users Association would agree that, say, 100,000 acre-feet can be diverted at the Horse Mesa Dam and sent over into the Gila Valley in exchange for water from the Colorado River, the exchange would not be any good unless the Salt River water users received water of a quality and quantity equivalent to the water they lost.

Mr. SCOTT. That is true.

Senator HAYDEN. And if the United States was at any time unable to deliver water of the quality and quantity they would lose, the Salt River Water Users Association would not send water from the Horse Mesa Dam to the Gila Valley.

Mr. SCOTT. What about the poor fellows down there?

Senator HAYDEN. They are the ones who have to run the risk, of course, because they are getting water on lands that are much shorter of water than the Salt River project. In other words, I do not see how it is possible to destroy a priority by a treaty or by a fair and equitable contract. It would be very foolish for the farmers in the Salt River project to make any other kind of contract. I do not see

how they could be compelled to do so. That is what I cannot follow in your argument.

Mr. SCOTT. I do not say we would be compelled to do so; but if we do not do so, we Salt River Valley water users would be accused of standing in the way of developing central Arizona.

Senator HAYDEN. No; you could only be accused of saying that you did not want to receive anything more than you gave in quantity and quality of water. "Whenever you give that to us, we will give you the equivalent; otherwise not.

Mr. SCOTT. From the result of our studies, it is our opinion that water containing 2,000 parts per million can be successfully used, but that it takes larger quantities.

Senator McFARLAND. The case of *Adams v. Salt River Valley Water Users Association* is different from the present subject under discussion in this, is it not: That in that case the Salt River Valley water users were pumping water in addition to the water that came down the river?

Mr. SCOTT. That is true.

Senator McFARLAND. That water had a higher salt content, but it did constitute one of the sources of water supply for the Salt River Valley Waters Users Association, and it was on that basis that I held that they were entitled to more water.

Now, is there any case in the United States—has there been a case in any court—which has held that if water returns to the river itself, you can require a greater amount to supply the water rights below because of the higher salt content of the water?

Mr. SCOTT. Well, I would have to look that up.

Senator McFARLAND. This is the only case on that subject, is it not?

Mr. SCOTT. Right square all the way down. There are cases that squint at it, if you want to put it that way.

The CHAIRMAN. We do not want to squint.

Senator McFARLAND. But I do not know of any case where the water returns to the river and becomes part of the water in the river where that point has been decided.

Mr. SCOTT. Well, of course, our own Supreme Court has held that now.

Senator McFARLAND. The facts, though, are much different. There is a difference in the facts. In this case the water was pumped and was not part of the river flow. We are talking about return flow.

Mr. SCOTT. I believe there are some cases, Judge, that require in effect that if you deteriorate the quality—I believe it is a *Colorado case*—

The CHAIRMAN. You may look them up at the noon recess.

Mr. SCOTT. However, you will have trouble using that character of water or even water containing considerably less salt if used in row irrigation and in the summertime, for evaporation will leave large quantities of salt along the top of your seed bed. It is my opinion that water containing in excess of 2,000 parts of salt per million will cause what is known in chemistry as a "base exchange." I am not a chemist, and am not qualified to discuss it other than what I have heard the experts testify with regard to it in litigation. The process is slow and will in time change the character of your soil. From that point on, injury from water containing salt increases progressively, and in my

opinion 4,000 parts per million is about the limit you can use in general farming. Even as to that quantity, certain crops are out of the question, especially the growing of vegetables. You also have trouble in using that character of water to get seeds to germinate in the summer-time.

To try to use water high in salt content in limited amounts is disastrous.

If your soil contains as little as one-quarter of 1 percent of salt, dry weight, there is no noticeable bad effect whatsoever. Let that quantity increase one-half of 1 percent, dry weight, and alkali and bare spots will show up in the fields. Should it increase to as much as 1 percent, dry weight, the land is completely out of cultivation.

Senator DOWNEY. What is that translated into terms of liquid parts per million?

Mr. SCOTT. Well, that is an entirely different basis. This is on dry weight. No matter how much water you have, if the top part of your soil—the top foot—just by dry weight contains as much as one-half of 1 percent in salt, you will have alkali spots. If you have as much as 1 percent, you are clear out of cultivation. That is based on tests we have made.

The CHAIRMAN. That is the fault of the land, not of the water.

Mr. SCOTT. No; it is not.

The CHAIRMAN. You said if the water had no salt at all, but if the land had the salt.

Mr. SCOTT. If the land had the salt; yes. But if you have a short supply of water, like we had in 1940—the farmers made the mistake of thinking that if they had a little water, they would run flash irrigation across and would wet the ground a foot or two, but that water would be used up in plant growth, leaving the salt in the soil.

In that quantity, if you use 4 acre-feet of water, you will put 1 ton of salt in the topsoil. If you keep that up for 2 or 3 years, you are out of cultivation. If you do not carry it down into the underground water, you will go out of production just as sure as the world.

The CHAIRMAN. All right.

Mr. SCOTT. I have before me a report of the Reclamation Bureau made in November of this last year. That report outlines the development of the entire Colorado River system. Specific projects in all of the seven basin States are discussed in detail. So far as central Arizona is concerned, it is discussed in what is known as the Gila division of the lower basin. The amount of water that is supposed to pass into central Arizona from the Colorado River is 1,588,000 acre-feet.

Also outlined is the amount of water to be used by California and Nevada, and that, together with Arizona, which I have just given you, exclusive of the Gila, which amounts to 9,922,600 acre-feet. They have also developed projects in the upper States and the total water required for the projects in the four upper States which they have listed is 7,656,000 acre-feet. They classify this water as "total ultimate depletion of the water supply." We have a total of 17,578,600 acre-feet proposed to be used in the Colorado River Basin. We now propose to give Mexico no less than 1,500,000 acre-feet, which, if added to this total, would be 19,078,600 acre-feet, with another 200,000 acre-feet to Mexico whenever there is more water in the river—which I read to

mean in the reservoirs—in any year than will be used in that year.

Let us turn for a minute to the amount of water in the Colorado River. There is no reliable record prior to the year 1922, when stream gaging was commenced at Lee Ferry. The average flow at Lee Ferry, according to the Geological Survey records, since the year 1922 and including the year 1944, was 12,746,000 acre-feet per year.

Senator DOWNEY. That is the virgin flow?

Mr. SCOTT. No; that is at Lee Ferry.

Senator DOWNEY. That is actual?

Mr. SCOTT. Actual?

According to this report of the Reclamation Bureau, stream depletion above Lee Ferry at the present time is only 2,440,000 acre-feet per annum. The net amount of water coming in between Lee Ferry and the mouth of the Colorado River will not amount to more than one-half million acre-feet per annum. That would bring the total flow of the river since 1922 to 15,646,000 acre-feet. Yet we are ratifying this treaty on the basis that there is at least 18,000,000 acre-feet in the stream and going ahead with plans for development on the basis of using consumptively 19,000,000 acre-feet, or on the basis of nearly 4,000,000 acre-feet more than there is in the river. You cannot irrigate on averages. We have found that out in the Salt River project. We have learned that lesson through bitter experience. If you are going to plan on the future, base your projects on your low years. A half supply of water is worse than no supply at all, for your returns will not equal your expenses.

What is the average low flow of the river over a period of years? Again let me turn to this report. I call your attention to page 125:

Perhaps of greatest interest is the concluding table on present and potential stream depletion. If a dry decade like that of 1931-40 should occur, the average annual stream depletion above Lee Ferry would be 2,440,000 acre-feet, provided that all projects now under construction and authorized were completed and in operation. Depletion from potential projects amounting to 1,815,000 acre-feet for irrigation within the upper basin, 1,792,000 acre-feet for export diversions to areas within the States of the upper basin, and 831,000 acre-feet for evaporation from power and hold-over reservoirs, would bring the ultimate stream depletion to 6,908,000 acre-feet. Although this is less than 7,500,000 acre-feet allocated to the upper basin by the Colorado River compact, actually it is more than would have been available. The average annual flow at Lee Ferry, in the 1931-40 period, had no upstream diversions been made, would have been 12,234,000 acre-feet. After deducting from this the 7,500,000 acre-feet allocated to the lower basin, only 4,734,000 acre-feet would have remained for the upper basin. Full upper basin depletion of 6,908,000 acre-feet could have been made, therefore, only if, at the beginning of the decade, the upper basin had hold-over storage sufficient to permit releases of 2,174,000 acre-feet annually throughout the 10-year period.

In other words, here we have a 10-year period when the flow at Lee Ferry, including the present uses, was only 12,234,000 acre-feet and if you add in the amount of water coming in between Lee Ferry and the mouth of the Gila River over a 10-year period, you will have something less than 13,000,000 acre-feet. If you take off 1,500,000 acre-feet and give it to Mexico, you have left something less than 11½ million acre-feet. This is exclusive of evaporation, which the report lists as 1,900,000 acre-feet per year if these reservoirs were built.

You might well ask how that would hurt the Salt River project. In the first place, let me point out that shortages to Mexico are to be made up from any and all sources and one of those sources is the water from the Salt River. I believe it was Mr. Clayton who stated that they

would never seek to take the water from Roosevelt Dam to make up any shortages to Mexico for the simple reason that they could not get it there. Based on conditions as they are at the present time, I agree with Mr. Clayton. If you opened all the gates in all of our reservoirs you could not get the water through the sands of the Gila in a year's time. But we again call attention to this report and the proposed plan of development.

There are two plans proposed for bringing this water into central Arizona; both plans bring the water to a point on our river system a few miles above Granite Reef Dam, where our project diverts its waters. That would be the main distributing point for these lands in central Arizona. The only practical way to get that water to the Casa Grande Valley and the Coolidge project, where the shortage is most severe, is to exchange our water on the Salt River for Colorado River water. A canal could be taken out at an elevation of some 300 feet higher than the Granite Reef Dam on the Salt River, and that water run into the Casa Grande Valley to alleviate the shortage in that area. We then in turn would take a like amount of Colorado River water in substitution therefor. What would happen in the event of such a period like 1931-40, if this development was made and the rivers in the Colorado went dry or nearly so? My opinion is that the Commissioner would simply direct that the Mexican water should be delivered by opening the gates to Boulder Dam.

We would complain we had old water rights. The Commissioner would tell us that was a matter for the States to fight out between themselves, and the water being diverted into central Arizona would be correspondingly decreased. If this plan of development goes through, I know that we will be asked to sign such a contract or be accused of standing in the way of development in central Arizona. Any such contract submitted to us for signature will contain a provision that the contract is subject to the Colorado River compact and the Mexican treaty. If such a condition should occur, there will be squabbling between the upper-basin States as to who should contribute their share. The old irrigated portions will claim that their rights are ahead of Mexico, and, if any contribution is to be made, it must come from the contract holders.

It is my opinion that as a matter of law such shortages have to be made up by users of water who commenced their use after the signing of the Colorado River compact. If they have to bear the entire burden, it could and would mean disaster.

The proponents are trying to tell you that the term "extraordinary drought" means any water shortage. In my opinion, that is sheer nonsense. If the treaty means that Mexico should be prorated in times of water shortage, let us write it that way. It is the only fair thing to do. I don't agree that Mexico should be given 1,500,000 feet. Prior to the building of Boulder Dam she never used over 750,000 acre-feet. Those who now claim she is using 1,800,000 acre-feet and ask to give her that amount by this treaty are simply advocating that we should make Mexico a gift at our expense.

Let me also tell you something about delivering water. That treaty provides for a fixed minimum. Regulate your flow as you will, you cannot deliver any given quantity of water to Mexico on the river within 10 percent of the amount ordered. In other words, we will assume she orders 1,000 second-feet flow. Try as you may, that flow

will vary between 900 second-feet and 1,100 second-feet. Many factors enter into that—wind, weather conditions, and the like. The flow will vary between night and day. The net result will be that if we give her the amount scheduled we will have to give her more than the amount scheduled, if we are to maintain the minimum, and, in my opinion, that will amount to at least 5 percent and maybe as much as 10 percent of the total flow. The schedule should have been written “plus or minus 10 percent,” and she should be charged with the amount of water received when it is over the amount on the schedule.

This treaty has a floor only. In all my experience it is the first instance where I ever saw a water right—and that is what this is—determined by a floor and not by a ceiling.

The CHAIRMAN. Why is not the million and a half acre-feet a ceiling?

Mr. SCOTT. Because you provide that she can take all the additional that happens to be there, if it is there.

In other words, this water right is not less than 1,500,000 acre-feet per annum. If that is the amount you intend to give, it should be written “not to exceed 1,500,000 acre-feet per annum.”

Senator PEPPER. Does not the treaty provide that there is a minimum guaranty of 1,500,000 acre-feet and a total of not to exceed 1,700,000 acre-feet?

Mr. SCOTT. That is under (d).

Senator PEPPER. I got the impression that that was the maximum unless it otherwise got there without being diverted. If it is permitted to go down there they could use what actually got there?

Mr. SCOTT. You may be right; but why not write it clearly? It could have been written very simply.

I wish to call your attention to article 10 of this treaty. Subparagraph a provides for a guaranteed annual quantity of 1,500,000 acre-feet. Subparagraph b goes on to say:

Mexico shall acquire no right beyond that provided by this subparagraph by the use of water of the Colorado River system for any purpose whatsoever in excess of 1,500,000 acre-feet annually.

Senator HATCH. As a lawyer, is there any serious doubt in your mind as to whether or not they should be read together?

Mr. SCOTT. Yes; and I will tell you why. When the compact was written, Judge Sloan was on the drafting committee. He was my partner. He told me that the million acre-feet provided for increased use in the lower basin applied to the Gila and especially to the Salt River project. There was no question about that. Yet I can find men in this room that were there and who will say that that is not what it mean; and they are still fighting over that provision.

Senator HATCH. You still entertain a serious doubt?

Mr. SCOTT. I do.

The CHAIRMAN. You say those two clauses in that paragraph stand absolutely separately?

Mr. SCOTT. Why is there any necessity for it?

The CHAIRMAN. Just a minute. As a lawyer, do you contend that one portion of a contract must not be read in conformity with all other portions of it?

Mr. SCOTT. Certainly I do. Suppose there is a conflict, then what?

The CHAIRMAN. I am just asking you. Do you subscribe to the doctrine that the whole instrument must be considered as an entirety?

Mr. Scott. Yes; but I say that if there are specific provisions in two paragraphs, one saying 1,500,000 acre-feet in one paragraph and 1,500,000 acre-feet in paragraph 2, and your limit under paragraph 2 shall not exceed 1,500,000, and you say in paragraph 1 that you guarantee 1,500,000, I think a fair interpretation would be to add them together.

The CHAIRMAN. Making 3,000,000 acre-feet?

Mr. Scott. Yes.

The CHAIRMAN. I do not care to ask you any further questions.

Senator MURDOCK. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MURDOCK. In subparagraph (a) we have a right absolutely guaranteed for the United States which is not dependent in any sense upon use by Mexico; is that right?

Mr. Scott. Yes.

Senator MURDOCK. When we come down to subparagraph (b) we find this limitation:

Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system.

In the one you have an absolute guaranty of 1,500,000. In the next subparagraph it refers to a right which may be established by use; but in referring back you find that the limitation there is again 1,500,000 acre-feet.

I merely ask the question for this reason—that to me, while the construction may be farfetched, it still is capable of that farfetched construction that you mention.

Mr. Scott. Exactly. In the Salt River Valley we have two rights: the proportionate part of the storage and development of water and then the natural flow rights as to those lands, and you add the two together.

Senator MURDOCK. May I ask this further question: If it is the intention of this treaty to put a ceiling of 1,500,000 acre-feet on the rights of Mexico, then why should we have subparagraph (b) in it at all?

Mr. Scott. We should not. Why is it there? There must be a purpose.

Senator MURDOCK. I do not understand it, either. I see no reason for subparagraph (b) there at all.

Senator McFARLAND. Was not that paragraph put in there for the sole purpose of limiting the amount of water which could be used to the amount which was guaranteed, 1,500,000 acre-feet.

Mr. Scott. In addition to the amount guaranteed?

Senator McFARLAND. No; limited to the amount guaranteed. That is the way I read it.

Senator WILEY. We all admit that it should be clarified, and that should be done.

Senator MILLIKIN. May I ask a question there, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MILLIKIN. Mr. Scott, let us suppose that we were writing this provision ourselves, and let us assume that we have agreed that there should be a guaranteed amount. We would have to take recognition of the fact that further waters would be passing down the Colorado River to the Mexico side, would we not?

Mr. SCOTT. Yes. Do you mean to say that by reason of this dam being in Mexico you are assuming jurisdiction?

Senator MILLIKIN. No; taking it as it is now. There are waters passing down into Mexico; so we would have to keep that in our minds as we were drafting the treaty. So, would it not be a logical thing for us to say that in addition to the million and a half acre-feet, through possibly no control on our part additional waters will go down there which might be used as a claim of right on the theory of user, and therefore would it not be prudent for us to say that as to the waters in excess of that guaranteed amount they cannot build up additional rights by user? Would not that be prudent?

Mr. SCOTT. Oh, certainly.

Senator MILLIKIN. Is not that the intention of subparagraph (b)?

Mr. SCOTT. The reason I say this, Senator, is this: If paragraph (b) means what I say it does, then the United States is asserting jurisdiction on Mexican soil. We have no right to tell her how much she can use or cannot use. We have said in effect that she can acquire a water right which we will not interfere with, to the extent of 1,500,000 acre-feet.

Senator MILLIKIN. But have we not attempted to say—I will not argue now as to whether we have said it or not—but have we not attempted to say—or, to put it in another way, would it not have been prudent to say that we recognize that waters will be coming down and you may use them if you wish, but you cannot use that user as a claim against us for more water?

Mr. SCOTT. That is correct.

Senator MILLIKIN. The question is as to whether or not subparagraph (b) has done that.

Mr. SCOTT. I do not think so.

Senator MILLIKIN. Mr. Chairman, this is a very important part of this treaty, and I am impressed with the knowledge and experience of the witness, and before he finishes I wish that he would take (a) and (b) and analyze them in a way that will support his view of those paragraphs.

Mr. SCOTT. I would simply rewrite it in one paragraph.

Senator MILLIKIN. We are not confronted with the problem of rewriting it; we are confronted, I suggest, with the problem of deciding whether we want to take it, in the first instance, at least, "as is."

Mr. SCOTT. Well, Senator, you have presented many fine arguments that you thought were absolutely sound and could not be questioned and you have seen the decision that came down.

Senator MILLIKIN. Yes.

Mr. SCOTT. There you are.

We are told that subparagraph (a) and subparagraph (b) are to be read together. Unless I had been told that, I would interpret that to mean that there are two quantities of water which she has, namely, 1,500,000 acre-feet under (a) and another 1,500,000 acre-feet under (b). Twenty years from now if that point is raised by Mexico, who is there to say that that is not what it means? If you wish to write it in simple language why not say that Mexico shall receive not to exceed 1,500,000 acre-feet per annum and that in time of shortage that amount should be prorated with users in the United States? Why wade knee deep in a lot of additional words and

phrases, if that is what you mean? If there is only one class of water, why divide it into two subparagraphs and allocate it twice?

At the time the Colorado River compact was made the 1,000,000 acre-feet additional allocated to the lower basin States was to take care of the users on the Gila River in the State of Arizona—or, in other words, the Salt River project.

My former partner, now deceased, Judge Richard E. Sloan, had much to do with the writing of that compact. I know that that was what was intended, and yet today there are many people who claim that that is not what is meant. The Colorado River compact was unfortunately worded in that regard. Article 10 is likewise unfortunately worded and should not be allowed to stand in its present form.

The amount of storage which we have on our river system is approximately twice the annual flow. The effective storage in Boulder Dam is something less than 20,000,000 acre-feet. It must be remembered that there are several million acre-feet of dead storage at the bottom of that reservoir and several million feet on the top as reserve for flood control. The effective storage at Boulder Dam is a little more than the average run-off for 1 year.

If all the proposed dams—20 to 30 in number—that the Government proposes to build in the upper States are built, the effective storage would be a little more than twice the annual run-off. In other words, the effective storage in the Colorado River will not be far different from the effective storage on the Salt River.

We figure that we have only a 4 years' supply when all our reservoirs are full. In other words, the low flow which we may expect, plus this storage, is only sufficient to last approximately 4 years.

Senator MCFARLAND. Are you making allowance for preserving the head for power?

Mr. SCOTT. No, sir. You cannot do it. The two will not work together.

Senator MCFARLAND. In other words, you are figuring on full reservoir capacity?

Mr. SCOTT. Yes, sir; with full irrigation use. Here, incidentally, is the history of our project [exhibiting a chart].

Senator MCFARLAND. Is that the same as the map on the easel?

Mr. SCOTT. No, sir; that is the Colorado. This is our project. It shows the run-off, by months, from January 1, 1889, down to date. It also shows the amount of water every day in the year that was stored in our reservoir. If you think you had a bad period from 1931 to 1940, I wish you would look at what happened in the nineties, and that is what brought about the reclamation law. That period here [indicating] is what brought about the Warren Act. That drought extended all over the United States. There was more water came down that river in 1905 than came down in the 7 previous years. The 1931-40 period is not bad. Our flow corresponds fairly well with the Colorado. You had a very much worse period than that at Mono Lake. The Los Angeles people know about that. There is a road that goes down there and comes out on the other side that the old-timers used to drive through in the forties.

Senator WILEY. Can you characterize any of those droughts within the meaning of the word "extraordinary"?

Mr. SCOTT. Only this period [indicating on chart].

Senator WILEY. All the others are not?

Mr. SCOTT. All the others are not. The others are overdevelopment. In an irrigation country a wet year is a normal year; a normal year is dry, and a dry year is just hell to pay.

If we go ahead with this great development on the basis of from 25 to 40 percent more water than the average low cycle, the power development will be completely ruined. We have had that experience in the Salt River. In the year 1940 our hydroelectric plants almost went completely out of commission. There was only one reservoir at which we were able to make any power and at that only a small quantity. Overdevelopment of any of our western streams means that from the standpoint of power you would have to have 100 percent steam standby.

There is another reason why I am opposed to that treaty and in my opinion that overshadows all the others. That is the provision that Mexico can continue to use all the flow of the river in excess of the 1,500,000 acre-feet if it is there. If a diversion dam is built just below the border within 5 years as the treaty provides, hundreds of thousands of acres will go into cultivation in Mexico immediately. There is no question of the quality of the land. The greater part of it is as fine land as ever lay out doors. It is even better than the land in the Imperial Valley. That land can be put into cultivation for from \$5 and \$7 per acre. With United States supplying the water and with the knowledge that they will not be troubled by diversion, a great part will go into vegetables. We are paying for common labor in the Salt River Valley at the present time something like \$7 per day; in Mexico you can get it for around \$1. Unless we have a high tariff wall there will be chaos in the vegetable industry in California and Arizona. That is now one of our major industries. As high as 1,000 cars a day of vegetables go out of that area in the wintertime. In the summer as many as four or five hundred cars of melons will be shipped out in a single day. I endorse everything that has been said with regard to cotton.

Not only that, but you are going to build up a civilization that should support at least one-half million people. There will be towns, there will be roads, there will be churches and schools, banks and industry.

The CHAIRMAN. If we reject the treaty, what is to prevent Mexico from doing what you say?

Mr. SCOTT. I will come to that in just a moment, if I may.

The mere fact that they may lose the water 20 years hence will not deter settlers. The people who put the land into cultivation will have their money out the first year. The greater part of the population will not know but what it is to continue forever. There will then come the day when some of the basin States wish to put in additional land. It may be by that time Congress will open to entry the land in Arizona and southern California to our veterans. The works for the first unit of the Gila project already have been built. There are approximately 150,000 acres in that unit.

In fact there is approximately 450 000 acres in Arizona and southern California for which the river canals have been built, ready to be put into cultivation. The greater part of this land is withdrawn from entry for the benefit of soldiers.

Let the time come when you attempt to take that water away from Mexico and put it on the lands I have just mentioned, as well as other

lands in other projects and other States, and there will be all kinds of pressure groups here in Washington to appeal to you in the interest of humanity not to send that one-half million people back to the desert. There will be the churches and the labor unions; industry will have interests there. In addition to that, appeals will be made to you from other American citizens who have large interests in Mexico and they will tell you that if you dry up that large community they will be in danger of having their property confiscated. Mexico will then contend that article 10 means 3,000,000 acre-feet and not 1,500,000 acre-feet. Mexico will further contend that the fine old English doctrine of laches and estoppel applies. Mexico will contend that if we didn't want her to have that water why did this treaty provide that she could use it.

We will have another Owens Valley on our hands. When Los Angeles purchased the land and the water rights in that valley and transferred the water to Los Angeles, legally Los Angeles was right—morally she was wrong. I went up through that valley in that period just to look over the situation. There were store buildings empty and schools boarded up. Los Angeles, even though legally right, was compelled to expend millions of dollars in buying the intangibles, and she was finally compelled to do what was morally right. And the United States will be compelled to do what is morally right. She will be compelled either to prevent us from taking away the water from that community or to reimburse every Mexican citizen not only for their land but for their roads and businesses and schools and churches and the like and to provide them with homes elsewhere.

You talk about war! Such a situation could easily cause a war. It is just plain foolish to permit such a civilization to be built up when you now know that in the course of a few years it has to be torn down. What does a few million acre-feet of water going to waste mean? It has been going to waste for centuries. We are not suffering from lack of land. Down on the west coast of Mexico there is the largest single piece of undeveloped land in North America. In Sonora and Sinaloa and south there are millions of acres of land that is susceptible of irrigation.

If you will go down there and look at it you will find that you cannot build a dam with only one bank; and the cost and expense would be prohibitive, with the river changing as it does. I have been on the bank of the Colorado River when within a few hours it changed from one side to the other in its channel. That is how fast it will move.

I therefore recommend to you the following changes:

1. Diversion works on the Colorado River for the water going into Mexico should be built, owned, controlled, and paid for by the United States.

2. A ceiling should be placed on the amount of water that she could use. The amount of that ceiling is for the United States to determine. My suggestion is 750,000 acre-feet.

3. Return flow below the dam should be allowed to pass on to the ocean.

4. Pilot Knob and other irrigation and flood-control works belonging to the Imperial irrigation district and its Mexican subsidiary should be acquired by the United States and the district compensated therefor.

5. This treaty should be referred to a subcommittee and hearings held in the field. There is no reason why there has to be such a rush to ratify this treaty. No one is suffering at the present time. If this treaty is ratified, it means immediate expenditure on both the Rio Grande and the Colorado of nearly a hundred million dollars by the United States. We are in a war. The building of the Davis Dam was stopped for that reason. Our development was stopped on account of the war, and yet by this treaty we reverse our position and proceed to expend this vast amount of money for the benefit of Mexico, and at the same time let our own citizens wait and suffer.

I thank you.

Senator HAYDEN. Mr. Chairman——

The CHAIRMAN. Senator Hayden.

Senator HAYDEN. I want to follow up the suggestion made by Mr. Scott that Mexico could not use Colorado River water in the absence of a treaty. I cannot quite see that.

Mr. SCOTT. She cannot physically do it, in my opinion; and that is the opinion also of other engineers.

Senator HAYDEN. First, the requirement would be that the Colorado River be confined to an established channel from the Mexican boundary down to the Gulf of California. We have confined the Mississippi River to a channel from Cairo to the Gulf of Mexico. So it is not impossible for good engineers to confine that river in a channel.

Mr. SCOTT. It is not impossible, but it is impractical.

Senator HAYDEN. If it were confined in its channel, water could be pumped out of it, could it not?

Mr. SCOTT. That is true.

Senator HAYDEN. The next thing is where to get the power for pumping. Mexico has vast oil resources. The Mexican oil supply is piped over to the Pacific coast. Tankers could bring the oil up, and the Mexicans could build a power plant near the head of the Gulf of California and would have cheap power to pump the water. I am assuming that modern engineering could do that. They then could expand irrigation in Mexico.

Mr. SCOTT. They would not do it. It would be too costly. I have been through there and know something about the engineering work that Hill has done. I have spent months and months with Hill right below the border where they have a project half the size of ours——

Senator HAYDEN. I have also been down there.

Mr. SCOTT. They would not do it. It would not pay.

Senator HAYDEN. The testimony before this committee is that the only reason why the Mexicans did not take advantage of their contract with the Imperial irrigation district, and divert half the water out of the Alamo canal, was because they did not have the financial ability to do it.

Mr. SCOTT. And the uncertainty of supply.

Senator HAYDEN. The supply was no more uncertain than it was in the Imperial Valley. They said they did not have the money. But now the Mexican financial situation has changed. They have made lots of money out of the sale of war materials; and it is not improbable, with the possibilities down there, that they might get American financial assistance. I am assuming that it is engineeringly possible to

confine that river to a channel just like we confine the Mississippi to a channel. If we do, the Mexicans can use the water and acquire a right to it by use. You would not dispute that. That would mean that they could go on and expand their present use from 1½ million acre-feet to possibly 3,000,000 acre-feet. What assurance do you have, then, that having asserted that right without a treaty they would not insist upon all the things you have just stated with respect to the use of water under the treaty?

Mr. SCOTT. I do not think it is right, because they have already been notified by the Boulder Canyon project act that they are not to get any rights, and whatever they acquired would be by reason of our storage.

Senator HAYDEN. That is a legal argument which I will not enter into; but, as a matter of fact, it seems to me that it would have just as great weight to say that if they took the water from the Colorado River and put it to beneficial use on the land that they had acquired a right to its continued use without a treaty, as to say they had acquired a right with the treaty. So I cannot follow your argument.

Mr. SCOTT. I do not think that Mexico has any better right to be protected than some of our returned soldiers who are waiting for the lands east of Yuma. I cannot see how we can protect Mexico against some of these soldiers.

Senator HAYDEN. We will take care of the soldiers, because the Reclamation Service has plans and specifications ready, and as soon as the war is over that land will be opened up to veterans.

One thing that is bothering me, on which I would like to have your comments, is this. California limited herself by act of the legislature to 4,400,000 acre-feet of water, and on the basis of that assurance the upper-basin States ratified the compact. Subsequently Secretary Wilbur gave them a contract for 962,000 acre-feet of the unapportioned surplus water.

Mr. SCOTT. Yes.

Senator HAYDEN. Subsequently Arizona made a contract with the Secretary of the Interior for the other half of that surplus. Under the Colorado River compact and this treaty, if there is a shortage in Mexico, the first place to go to get the amount of water that is short is out of that 962,000 acre-feet.

Mr. SCOTT. You do not need to worry about that. Whenever there is a shortage of water there is no surplus. The only time there is any surplus is when there is water going to waste. How can you get it if it is not there?

Senator HAYDEN. What I am getting at is that a right to use the surplus by contract is certainly a right that is inferior to a firm right obtained under the compact?

Mr. SCOTT. That is true.

Senator HAYDEN. So that among different users that had to give up water, the first one that would have to give it up would be the one that was claiming a right out of the surplus?

Mr. SCOTT. That would be California.

Senator HAYDEN. That is the way I look at it; and the same would be true of Arizona, if we took the same chance that they did and took an equal quantity of water. Roughly speaking, 962,000 acre-feet is about a million acre-feet of water. Suppose we applied it

on the lower Gila above Yuma. I would like to get your comment on that.

Mr. SCOTT. That would be, in my opinion, in the same class as the first 500,000 acre-feet of the metropolitan water district. It would not be in the same class as the Salt River. It would be in the contract holders, in those who had acquired a right after 1922 when the compact was ratified. It would not apply to the greater part of the Imperial Valley. It might apply to new lands.

Senator HAYDEN. What about our share of the 2,800,000 acre-feet of water allocated to Arizona and contracted for? That is firm water, a large part of it might well be used in central Arizona. I thoroughly agree with you that there would be little or no return flow from the interior of our State. This 962,000 acre-feet of surplus water has not actually been used in California, but they have contracted for it. When it goes over the California mountains there is no return flow from it. If we used the same quantity of surplus water under the Arizona contract on the lower Gila there would be a return flow from that?

Mr. SCOTT. Yes; so the net result is the same in the contract for 2,800,000 acre-feet, and if there is a return flow back into the Gila of 500,000 acre-feet, then we will be permitted to increase our diversion by 500,000 additional, making it 3,300,000.

Senator HAYDEN. The net consumptive use of water in Arizona on the lower Gila is what counts. If Arizona diverts 1,000,000 acre-feet and 20 percent of that, or 200,000 acre-feet becomes return flow it would be applicable for credit under this treaty. Arizona could contribute some water to Mexico by return flow, whereas, as to this water that goes over the range into California, there is no return flow?

Mr. SCOTT. That is correct. That is my opinion.

Senator HAYDEN. According to the figures that you have shown, there is not water in the Colorado River now, and not likely to be, to supply the 962,000 acre-feet that has been contracted for by California?

Mr. SCOTT. That is true; and about a million additional acre-feet.

Senator HAYDEN. So California has a contract that, in your opinion, will not produce any water?

Mr. SCOTT. It will never produce a drop, Senator. They will never be able to get one drop of water on that contract. The only time there will be surplus is during wet years, when they have even more water in California, and then when the dry periods come along the surplus has long since vanished. That is what makes the prorating of a water right so dangerous. When you take it off of the top part, here are all of the upper States that have old water rights, like ourselves, and they will say, "In prorating don't start on us." You start on this narrow margin, and in times of drought it gets very tough.

Senator HAYDEN. We have heard the argument made over and over again that this treaty should not be ratified because it impairs a water contract that California now has. But, in your opinion, the contract is no good, anyhow?

Mr. SCOTT. No. I am not here for California. I have got all I can do to look out for Arizona.

Senator HAYDEN. According to the figures that have been submitted to this committee by yourself and others, there just is not enough water in the river to supply that 962,000 acre-feet?

Mr. SCOTT. That is my opinion.

Senator HAYDEN. Then California does not have a contract that is worth worrying about?

Mr. SCOTT. That is true. I am worrying about prorating any to Mexico when we have to do it. Our rights are just as good as theirs.

Senator HAYDEN. As to whether there should be water taken out of the Colorado River for use in central Arizona—I am very glad you have brought that proposal to the attention of this committee, because it is a vital matter. We simply cannot maintain the civilization we now have in our State without more water.

Mr. SCOTT. We are sunk if we don't get water.

Senator HAYDEN. I do not want to take water from any acre of land that is irrigated, but I do insist that so far as Arizona's right to the 2,800,000 acre-feet of apportioned water under the contract that we have with the Secretary of the Interior is concerned, it is just as good and sound as the contract that California has. If there is any shortage we have got to share it in proportion.

Mr. SCOTT. Not all of the 4,400,000 acre-feet. I do not think that applies to the part of that which is originally appropriated by Imperial Valley. Our 2,800,000 applies to the Yuma project.

Senator HAYDEN. If there comes a time when California and Arizona have to give up some water to Mexico, the ratio would be 4,400,000 for California and 2,800,000 for Arizona?

Mr. SCOTT. Less existing uses in 1922 when the compact was ratified.

Senator HAYDEN. Whatever water was required by Mexico would not affect the prior rights of the Yuma Valley and the Imperial Valley?

Mr. SCOTT. Yes; and the Little Colorado.

Senator McFARLAND. What you mean by that, as I understand it, is this, that it would be in the ratio of 4,400,000 to 2,800,000, but as far as Arizona is concerned, we would have to eliminate the old Yuma rights?

Mr. SCOTT. Yes.

Senator McFARLAND. How much land was that?

Mr. SCOTT. Seventy-five thousand acres.

Senator McFARLAND. So we would have to take whatever water they use there?

Mr. SCOTT. The 2,800,000 plus the Little Colorado, also.

Senator McFARLAND. And then over on the California side it would be figured the same way?

Mr. SCOTT. Yes.

Senator McFARLAND. But, so far as the two States are concerned, the ratio would be 4,400,000 and 2,800,000?

Mr. SCOTT. That ratio would change after you get your revised figures.

Senator McFARLAND. I mean, so far as the supplying of the water is concerned, as to which one of the users would have to give it, it would have to be the late users?

Mr. SCOTT. There would be a lawsuit which would last 20 years.

The CHAIRMAN. Do you object to that? You do not object to lawsuits, do you?

Senator HAYDEN. What is the right and just thing to do? What should a court decide? If there was a shortage of water in the Colorado River, and we had to give up some water to supply Mexico, do

you think that the old user at Yuma should be required to give up his part of it?

Mr. SCOTT. No, sir; I do not think so. But the thing that worries me is how are you going to get the upper States to release the water to us.

Senator DOWNEY. Before the recess, can I develop just one point in connection with California rights?

The CHAIRMAN. Yes.

Senator DOWNEY. Mr. Scott, I do not know whether Senator Hayden, by developing your rather dismal ideas about the likelihood of surplus, in which I agree with you, meant to indicate that that would make California's situation any better so far as this treaty is concerned. As a matter of fact, it puts us in a lot worse condition, does it not?

Mr. SCOTT. That is right.

Senator DOWNEY. We are planning now to get in 112,000 acre-feet of water, under the supposed surplus, to San Diego, that is needed there as a military necessity.

Mr. SCOTT. Yes.

Senator DOWNEY. You know that one-half of our metropolitan supply is in the surplus?

Mr. SCOTT. Yes. Old Mother Hubbard's cupboard is what you are coming to.

Senator DOWNEY. Those rights are gone by act of nature, are they not?

Mr. SCOTT. Yes.

The CHAIRMAN. You have asked four questions already.

Senator DOWNEY. I am just developing this one point.

Of this firm water we have a right to 550,000 acre-feet?

Mr. SCOTT. That is correct.

Senator DOWNEY. Even that right, then, in your opinion, would be impaired, or perhaps largely destroyed, by a guaranteed right to Mexico of 1,500,000 acre-feet?

Mr. SCOTT. Yes; in times of shortage. There is only one thing you can get any comfort out of. There are losses of 300,000 acre-feet between Lee Ferry and the Mexican border. I think that belongs to the upper States.

Senator HAYDEN. There is one other point you mentioned. You suggested that the contract that the Imperial irrigation district now has with the Secretary of the Interior whereby they control the All-American Canal below the Imperial Dam and by which they contemplate the delivery of water into Mexico should be canceled and compensated for. That is what the treaty does; is it not?

Mr. SCOTT. No. I put in the whole thing. I put in those levees and the canal system; and the United States should take it all over, in fairness.

Senator HAYDEN. But, so far as it goes, that is one objection that California has to this treaty?

Mr. SCOTT. Yes; and I do not blame them.

Senator HAYDEN. They have a contract with the Secretary of the Interior that gives them control of the All-American Canal, which has an enlarged capacity to carry water down and drop it into Mexico, and they applied to the Public Works Administration for permission

to get money to build a power plant, contemplating diversion through that power plant into Mexico of 3,000,000 acre-feet of water. That is the situation. The treaty limits the quantity of water, up until 1980, to 500,000 acre-feet, through the All-American Canal, and then after 1980 it is 375,000 acre-feet, and it provides that the means of delivery of the water to Mexico shall be under the control of the United States. So they claim that this treaty impairs the contract they now have, and you think that is a bad contract for all concerned?

Mr. SCOTT. It is bad in this way, Senator. I probably should not say it, but you know that when you try to make people give up money there are all kinds of pressure groups, and I am afraid that when we come in and ask for water for central Arizona some California people will bring pressure to bear to keep the bill from going through, knowing that it will cut off some revenue for the Imperial irrigation district.

Senator HAYDEN. Under the treaty the Imperial irrigation district will control the All-American Canal from the Imperial Dam down to Pilot Knob, which is capable already of taking water to Mexico. They will build a power plant and they will run the water in to Mexico and Mexico will irrigate land.

Mr. SCOTT. They can run it either way.

Senator HAYDEN. But they want to sell it to the Mexicans.

Mr. SCOTT. I don't blame them.

Senator HAYDEN. I don't either.

Mr. SCOTT. That is why I suggested that this be done.

Senator HAYDEN. You suggested that we get rid of a situation which is disadvantageous to the United States—

Mr. SCOTT. Get rid of the whole situation; take over the levees and the works. I feel sorry for those fellows down there. They are just as helpless as they can be.

Senator HAYDEN. The way it is set up under the present arrangement Mexico will get water delivered through a power plant, right onto their land, and they will put their land into cultivation, and they may use up to 3,000,000 acre-feet. If they do use 3,000,000 acre-feet of water in Mexico they would acquire just as good a right to it as they would under the treaty.

Mr. SCOTT. I want to point out to you that you have provided in this very treaty that the United States can do the same thing—and they will, if the present bunch in the State Department are running it. They provided right in the treaty that they can run this water through the All-American Canal. That is carrying the good-neighbor policy too far.

Senator HAYDEN. The limitation is 500,000 acre-feet?

Senator DOWNEY. I think subdivision (D) covers that.

Mr. SCOTT (reading):

In any year in which there shall exist in the river water in excess of that necessary to satisfy the requirements in the United States and the guaranteed quantity of 1,500,000 acre-feet allotted to Mexico, the United States hereby declares its intention to cooperate with Mexico in attempting to supply additional quantities of water through the All-American Canal as such additional quantities are desired by Mexico * * *.

There is no limit.

Senator HAYDEN. Where does the limitation come in?

Mr. SCOTT. It comes in in another section, but this provides that—
if such use of the canal and facilities will not be detrimental to the United States, provided that the delivery of any additional quantities through the All-American Canal shall not have the effect of increasing the total scheduled deliveries to Mexico. Mexico hereby declares its intention to cooperate with the United States by attempting to curtail deliveries of water through the All-American Canal in years of limited supply, if such curtailment can be accomplished without detriment to Mexico and is necessary to allow full use of all available water supplies, provided that such curtailment shall not have the effect of reducing the total scheduled deliveries of water to Mexico.

In other words, right in this treaty itself the United States can supply as much water as it pleases through Pilot Knob.

Senator HAYDEN. If Congress appropriates the money to build the plant.

Mr. SCOTT. I mean, if the plant is built.

Senator DOWNEY. Will Mr. Scott be back this afternoon for cross-examination?

The CHAIRMAN. He has finished his statement.

Senator DOWNEY. I have some questions that I think, in the interest of this treaty, I should ask.

The CHAIRMAN. How long will it take you?

Senator DOWNEY. I do not think it will take over 10 or 15 minutes.

The CHAIRMAN. I would like to finish with the witness.

Senator MILLIKIN. I would like to ask the witness a few questions that will not take very long.

The CHAIRMAN. Proceed.

Senator DOWNEY. Would it not be possible for the United States Government, acting through the Imperial irrigation district, to immediately close down the head gates of the Alamo and cut off about 1,100,000 acre-feet of water that Mexico is now receiving from that source?

Mr. SCOTT. Yes.

Senator DOWNEY. If we accept the testimony of the representatives of the State Department, Mexico is now securing an additional 700,000 acre-feet of water by pumping. Do you understand that?

Mr. SCOTT. It has been so testified, but investigation will not disclose that.

Senator DOWNEY. Let us assume that that is true.

Mr. SCOTT. Very well.

Senator DOWNEY. I will ask you if it is not possible, whenever the United States Government wants to try to protect American citizens, to so regulate the discharge of Boulder Dam right now, and particularly after Davis Dam is completed, so that in 30 or 60 days of the summer irrigation season there would not pass down to Mexico more than enough water to make up the 700,000 acre-feet. Is not that true?

Mr. SCOTT. That is right.

Senator DOWNEY. I desire to say to the chairman and to the committee, if that point is of interest, that we can abundantly substantiate the fact that the United States has it within its power, whenever it wants to, by holding back the water from Boulder Dam during 30, 60, or 90 days of the irrigation season, to prevent the development of any large acreage in Mexico.

The CHAIRMAN. When you operate Boulder Dam for power, you have to release some water?

Mr. SCOTT. Yes.

The CHAIRMAN. So you cannot tie up the electrical operations for 30 or 60 or 90 days.

Mr. SCOTT. No; but about 2 days of a little flash flood, or 24 hours of flash flood, and you could raise enough havoc so that there would be no more crops that summer.

Senator DOWNEY. We are prepared to show that upon the completion of Davis Dam we can entirely cut off the whole irrigation flow to Mexico, without diminution of any of our power rights; we would still have power that would be used in Arizona and California.

Let me ask you this, Mr. Scott. If this treaty should go through, Mexico could probably avail itself of the certainty of being able to use at least 5,000,000 acre-feet of water that we would not be using in the United States probably for 30 years; is not that right?

Mr. SCOTT. I hope not. We have got 450,000 acres standing idle there right now. I do not see why Congress does not get busy on that.

Senator DOWNEY. The upper-basin States are not using 5,000,000 of their supply right now.

Mr. SCOTT. That is true.

Senator DOWNEY. And the upper-basin States representatives have expressed the opinion that they will have water coming down there for a hundred years?

Mr. SCOTT. That is on paper, I believe. It is not there except in wet years.

Senator DOWNEY. You will assume, then, that there would be a very large amount, 3 or 4 or 5 million acre-feet for 20 or 30 years?

Mr. SCOTT. In some years. We are faced with a problem on the Colorado River this year, unless something happened, since I left. You may be telling a different story next year.

Senator DOWNEY. Mr. Scott, it does seem to me that for 20 or 30 years over half of what the upper-basin States are expecting to use will be coming down that river. They at least are counting on the fact that there is going to be an additional storage around 7½ million acre-feet.

Mr. SCOTT. We have just gone through a 10-year period with only 12½ million acre-feet.

Senator DOWNEY. Without fixing the particular amount of water that Mexico may rely on for 20 or 30 years, it at least will be of substantial volume?

Mr. SCOTT. Yes. It may and it may not; nobody knows.

Senator DOWNEY. At least that certainly is the theory of the proponents of the treaty?

Mr. SCOTT. If we have a period like——

Senator DOWNEY. No; that is at least the theory of the proponents of the treaty; is it not?

Mr. SCOTT. Yes.

Senator DOWNEY. If during that period of time, whatever amount of water may be wasting to the Gulf, if Mexico is allowed to use it through her dams and diversion ditches, she will have the cheapest supply of water in the United States, the cheapest area to improve and one of the most fertile areas in North America, and the cheapest supply of labor in North America. Is not that true?

Mr. SCOTT. I think that is true. I have never been down on the lower Rio Grande, Senator; but I will say this, that there will be a large and fertile development of cheap land, cheap water, and cheap labor. It would go in over night.

Senator DOWNEY. And that might come within 5 years?

Mr. SCOTT. All that land will be in cultivation within less than a year.

Senator DOWNEY. The evidence shows that a Mr. Jenkins has recently taken over 500,000 acres of that land from the Chandler interests?

Mr. SCOTT. Yes.

Senator DOWNEY. The purchase price apparently was 75 cents an acre, according to the story here. What do you think that land would become worth with, we will say, a firm water right?

Mr. SCOTT. That is hard to say, Senator. But put it on this basis: The yield in that country is enormous. Forget about what your land is worth. Think about what you can get off of it. You can grow three bales of cotton to the acre on that land.

Senator DOWNEY. Three bales?

Mr. SCOTT. Yes. I have seen much of it. You do that up in the San Joaquin Valley.

Senator DOWNEY. I have told that to some of the southern Senators and they would not believe me.

You accept the possibility that large parts of this acreage may pass into the hands of innocent purchasers who may not know as much about this treaty as we do?

Mr. SCOTT. Yes.

Senator DOWNEY. And when the upper-basin States begin to want this water we would be confronted with a very delicate international situation, would we not?

Mr. SCOTT. The matter of the land is not half as serious as the towns and the intangibles. It is just like Owens Valley.

Senator DOWNEY. There would probably be enough land and water to build up a community of about 500,000 people?

Mr. SCOTT. I believe so.

Senator DOWNEY. Do you know that the present population of lower California is less than 50,000, according to the Census Bureau?

Mr. SCOTT. I do not know the exact amount, but I know what population that will support in Arizona.

Senator MILLIKIN. I understand your testimony to be that at the present time there is no return flow to the Colorado from upper Arizona?

Mr. SCOTT. There is some down around Yuma, but not from the Central Valley. The Yuma project does not have to pump, and they run water to waste.

Senator MILLIKIN. Your testimony is limited to your own district?

Mr. SCOTT. Yes; central Arizona. There are about 61,000 acres there.

Senator MILLIKIN. How much water will you in your district get out of the Colorado River when you get it?

Mr. SCOTT. This report speaks of 1,500,000 acre-feet. That is about what we need for lands now in cultivation.

Senator MILLIKIN. Would that provide any return flow?

Mr. SCOTT. Not a drop.

Senator MILLIKIN. If there is no return flow, of course, the salinity of the resultant mixture will be an additional problem for you folks to take care of?

Mr. SCOTT. If there is any we will use it.

Senator MILLIKIN. So the resulting salinity will not have any effect on the Colorado River?

Mr. SCOTT. None at all. I understand that Mr. Tipton does not agree with me on this.

Senator MILLIKIN. I am trying to develop it through you. You have given your opinion that the provisions that deal with that subject are obscure and ambiguous. I think that it is important, and you would be giving a genuine contribution to these hearings if you would demonstrate the obscurity. I myself should like to have a clear demonstration.

Mr. SCOTT. You cannot get a clear demonstration of something that is obscure. I can rewrite it if you would like that.

Senator MILLIKIN. You can demonstrate the obscurity. I was asking you to demonstrate that which is obscure.

Mr. SCOTT. Well, the point is that you have got section (a) and section (b). One says 1,500,000 acre-feet, and the other says they may divert this additional water; and then in the latter part of that paragraph it says that nothing in this subsection shall increase their rights by use of more than 1,500,000 acre-feet. Why not erase that section? Why have it there?

Senator MILLIKIN. Is it your point that the subsection is not adequately tied in with the first.

Mr. SCOTT. The first time I looked at it, for sometime I thought that 1,500,000 acre-feet was storage water.

Senator MILLIKIN. Is it your understanding that subparagraph (b) can, under fair rules of construction, be construed as an independent section, having no relation to subparagraph (a)?

Mr. SCOTT. Yes; that they are allowed to continue to appropriate water, as much as they please, and we are not permitted to cut it back to less than 1,500,000 acre-feet.

Senator MILLIKIN. Let me repeat my question. Is it your contention that subsection (b) can be construed as entirely independent of subsection (a)?

Mr. SCOTT. Yes.

Senator MURDOCK. I would like to ask the witness this question, by reason of the statement he made with reference to return water. What is your definition of beneficial consumptive use?

Mr. SCOTT. Can you go a little further?

Senator MURDOCK. In order to expedite the answer, in the treaty itself it is described as follows:

In general it is measured by the amount of water diverted less the part thereof which returns to the stream.

Would you agree with that definition?

Mr. SCOTT. No; not necessarily. In some instances water that requires leaching out harmful salts might be classed as beneficially used. In other instances it might not be. Up around Boulder it is almost distilled water, it is so pure. That could not be considered beneficial use.

Senator MURDOCK. Referring to the return flow that will come back, as estimated by the engineers who are proponents of this treaty, in the quantity of 930,000 acre-feet, let us assume that there is that return flow from Arizona, which returns to the river above the point of delivery to Mexico but below a point where it can be reused or rediverted into the United States, is it your position that that water belongs to Arizona and that Arizona can claim credit for that return flow in contributing its share of water to the allotment to Mexico?

Mr. SCOTT. I think that is so. The Reclamation Bureau has always considered consumptive use and depletion as synonymous.

Senator MURDOCK. As I understand it, you do claim that whatever is returned to the river by Arizona is Arizona's water and can be credited or should be credited to Arizona?

Mr. SCOTT. Yes.

Senator MURDOCK. In supplying any allotment to Mexico? Is that your contention?

Mr. SCOTT. Yes, sir.

Senator MURDOCK. That is all.

The CHAIRMAN. I would like to ask you one question. You spoke about getting the water from central Arizona out of the river. You would have to go up the river a considerable distance and divert that water by tunnel, would you not?

Mr. SCOTT. There are two plans that have been outlined. One is the tunnel at Davis Dam and the other is the pump lift from Parker on the opposite side of the lake.

The CHAIRMAN. But you would convey it from Davis Dam through a tunnel into the canal. Have any estimates been made as to what the tunnel would cost?

Mr. SCOTT. I have seen no figures. I have seen a lump sum developed.

The CHAIRMAN. I am speaking about the tunnel itself. What would that cost?

Mr. SCOTT. I do not know.

Senator HATCH. The Bureau has figures on that.

Mr. SCOTT. But in their report they have not segregated them.

Senator HATCH. It would still call for a lot more surveying work to be done?

Mr. SCOTT. Yes. In my opinion it would be cheaper to bring it in from Parker. I may be wrong.

The CHAIRMAN. In answer to Senator Downey about the development in Mexico, that if this water continues to go down to Mexico they could develop from 50,000 to 500,000 people and build up cities and communities and bring in hundreds of thousands of acres more of land: if we did not have any treaty this water would still go down to Mexico—wait a minute. Do not shake your head until I finish my question.

Mr. SCOTT. O. K.

The CHAIRMAN (continuing). Through the Alamo canal, by pumping near the river margin in Mexico, and possibly as suggested by Senator Hayden, confining the river by levees or otherwise?

Mr. SCOTT. Do you want me to deal in the imaginary or the practical?

The CHAIRMAN. You were dealing in the imaginary before.

Mr. SCOTT. From a practical standpoint, no; it cannot be done.

The CHAIRMAN. How would it be done under the treaty?

Mr. SCOTT. By building a dam on Arizona soil and taking the water out of that permanent structure, as well as running it through the All-American Canal. Let the committee hold hearings down there.

The CHAIRMAN. Wait a minute. That is contingent on the ratification of this treaty, is it not?

Mr. SCOTT. Yes.

The CHAIRMAN. And under the treaty they can only get 1,500,000 acre-feet, with the slight exception of what they may use—

Mr. SCOTT. No, sir. Under the treaty they can get all the water that is there, whenever it is there; and if it is not there we guarantee 1,500,000 acre-feet, plus 200,000, plus overdeliveries, and a lot of other things.

The CHAIRMAN. Well, subject to those conditions, they could only get that water through the works you are talking about, in the event the treaty is ratified, with the limitations of the treaty; is not that true?

Mr. SCOTT. Yes; unless it is very large. But if we can go ahead and have our own development, we can let them have what we please.

Senator McFARLAND. Mr. Chairman, I have received various resolutions and telegrams from organizations, and I would like to place some of them in the record. Some of the senders are water users, and if I may I would like to have these documents printed in the record at this point.

The CHAIRMAN. We already have a large amount of those.

Senator McFARLAND. There are not very many of them.

The CHAIRMAN. I am not objecting. I was thinking that maybe we can sort them out. We are going to have an executive session and pass on what we will put into the record.

Where do you live, Mr. Scott?

Mr. SCOTT. Phoenix, Ariz.

The CHAIRMAN. Do you know what is the attitude of the Arizona Legislature on this treaty?

Mr. SCOTT. Yes, sir.

The CHAIRMAN. What is it?

Mr. SCOTT. Ninety-odd percent do not know anything about it; never read it.

The CHAIRMAN. What is their official attitude? Their ignorance is their own private affair.

Mr. SCOTT. They voted for it without any hearing.

The CHAIRMAN. How did they vote? Tell me that.

Mr. SCOTT. We never heard about it until we saw it in the paper. They voted for it, but I have found only two members in the house that ever read it.

The CHAIRMAN. Why did you not see them before they voted instead of after they voted?

Mr. SCOTT. We did not know that they were going to slip it over on us.

The CHAIRMAN. They could reverse themselves if you convince them that they are wrong.

Mr. SCOTT. I do not think they would pay any more attention to me than you have.

The CHAIRMAN. I think we have paid a good deal of attention to you. I think you have no complaint against the committee.

Mr. SCOTT. Not at all. I think you have-treated me very courteously.

The CHAIRMAN. All right. That is all.

We will take a recess until 2:30.

(Whereupon, at 12:55 p. m., a recess was taken until 2:30 p. m. of the same day.)

IN THE SUPERIOR COURT OF THE STATE OF ARIZONA IN AND FOR THE COUNTY OF
MARICOPA

No. 41005

E. O. ADAMS ET AL., PLAINTIFFS

v.

SALT RIVER VALLEY WATER USERS' ASSOCIATION, A CORPORATION, DEFENDANT

OPINION AND DECISION

Prior to 1905 we find that the lands irrigated in the Salt River Valley from the Salt River and its tributaries were irrigated by means of various canals. Many of the landowners had formed themselves into canal companies and had constructed numerous canals throughout the valley.

In the year 1903 the United States Government, acting by the authority of Congress under what is known as the Reclamation Act, commenced the construction of an impounding dam known as the Roosevelt Dam.

As a condition precedent to the United States building the Salt River Project they required that the priority of the water rights to all the land that would be within the Project should be established by some legal method.

In compliance with this requirement there was a suit instituted in the year 1905 in the nature of a quiet title proceeding which is usually referred to as the *Hurley-Abbott case*. The decision in this case was rendered by Judge Edward Kent on March 1, 1910. Testimony was introduced intermittently for a period of two and a half years and the water rights to all of the lands lying within the boundaries of the Project at that time were adjudicated.

In this case the Court found that there had been some evidence of irrigation in prehistoric times from the Salt River and its tributaries; that cultivation in recent times began in about the year 1869 until there were approximately 151,000 acres attempted to be irrigated from water diverted from the Salt River at various points. This decision adjudicated the water rights of all the lands within the boundaries of the Salt River Valley Water Users' Association at that time.

The lands of the plaintiffs in this action were among those adjudicated, which lands embrace 16,089 acres of the present Project lands. At the time the Salt River Project was formed it was required that before any lands could receive rights to the stored waters that the landowners must sign a contract with the United States Government and must become members of the Salt River Valley Water Users' Association.

The *Hurley-Abbott case* having been instituted primarily for the purpose of determining water rights as a necessary prerequisite to undertaking the Salt River Project and determining what lands should be included therein, a classification was used as to rights of entry as "A," "B," and "C" lands. This was a classification used for the purpose of this case and the procedure and issues were determined largely by consent and no appeal was taken from the decision.

In the Kent Decree the lands classified as "A" lands were those which the Court found had been irrigated and cultivated prior to the bringing of the action and on which irrigation and cultivation had continued sufficiently constant to establish a definite water right. The dates and priorities of the "A" lands were set forth in the Decree, beginning with the year 1869 and ending with the year 1909.

The lands classified as "B" lands were those which had been irrigated and cultivated at times when there was plenty of water in the river, but on which irrigation and cultivation had been carried on only during the high stages of the river and had been discontinued, and for this reason and quasi consent nature of the Decree had justified the Court in adjudicating the water rights to them later in time than those to which they would otherwise have been entitled.

The lands classified in class "C" were all of the lands upon which no cultivation had been made or to which no appropriation or attempted appropriation had been made.

These classifications were made for the purpose of giving a preference to entry in the Project, the Court holding that each class had the same right to the stored water after entry. The "A" lands were therefore the only lands given priorities earlier than that of the stored water.

The waters were classified somewhat artificially as follows: normal flow water as water flowing in the river at various stages available for project appropriations; maximum normal flow water as the total amount to be diverted from the River for the cultivation of all the parcels of land to which water had been appropriated; floodwater as the water in the river over and above the maximum normal flow; surplus water as the water both normal and flood not needed or used; and stored water as the water impounded in the Roosevelt Reservoir.

The Salt River Valley Water Users' Association was a corporation incorporated in the year 1903 whose members were limited to those signing contracts with the Secretary of the Interior for the inclusion of their lands in the Salt River Project.

Most of the lands having adjudicated water rights under this Decree were members of the Salt River Valley Water Users' Association at the time of the rendition of the Decree or became members shortly thereafter. However, the plaintiffs' lands were not brought into the Project or subscribed for shares in the Salt River Valley Water Users' Association at the time the latter was incorporated. Their lands were irrigated by water diverted from the Salt River through what is known as the Tempe Irrigation Canal System, and continued to be so irrigated until their entry in the Project on February 9, 1924. They embraced 16,089 acres, 15,275 acres of which were "A" lands, 487 acres of "B" lands, and 328 acres of "C" lands.

Most of the "A" lands had early appropriations. All except 208 acres had appropriations in or prior to 1892.

The plaintiffs' lands, having no right to the stored water prior to their entry in the Project, had been irrigated solely by rights in the Salt River as adjudicated in the Kent Decree. Some of the lands in a few instances supplemented this supply with pumped water. During this period of irrigation some of the plaintiffs' lands became waterlogged and others were in a danger zone, the average distance to the table in the Tempe District being 7.9 feet for the year 1923.

The rise of the underground water was caused by the irrigation in the Tempe District and in the Project.

The plaintiffs had attempted to control this water table prior to their entry in the Project by drainage ditches and pumps. The contract by which the plaintiffs' lands were included in the Project and by which they became shareholders in the Salt River Valley Water Users' Association provide for the drainage of those lands. Hence, it was probably the drainage expense and the danger of the lands becoming waterlogged which prompted their entry into the Project.

Under Paragraph 2, under the heading "General Purposes" the contract reads as follows:

"The object and purpose of this agreement is to provide and execute a general plan for the unified operation of the irrigation and drainage works situated within the Reservoir District substantially all of which are controlled by the parties hereto or their associates, and thereby conserve irrigation water, reduce expenses of operation, remove danger of friction and litigation, provide funds for the construction of better drainage and irrigation facilities, and give better service of irrigation water to the landowners at reduced cost. To successfully accomplish such purpose the following are deemed essential, to wit:"

(The covenants of the contract are thereafter set forth in detail.)

The contract provides for the formation of a drainage district and for the sale of the bonds for the purpose of providing available money for drainage purposes. It also provides that the Salt River Valley Water Users' Association assume the liability for the payment of the bonds and provides for the payment of the sum of \$25.00 for each acre of land included in the Project, which was estimated to be an amount equal to the back assessments paid by the other shareholders in the Salt River Valley Water Users' Association.

There is a provision made in the contract for the issuance of bonds by the Salt River Valley Water Users' Association in the same amount as these back assessments, and the plaintiffs promised to pay said back assessments in semi-annual installments as nearly equal as conveniently possible with the same rate of interest as bonds in like amount which were to be issued and sold if possible

to the Association. In the event that bonds were not issued, the back assessments were to be payable in thirty (30) years, together with 6% interest; and the Association was authorized to make assessments for the payment of both the principal and interest.

The plaintiffs' lands, pursuant to the terms of said contract, were thereby included in the Salt River Project, and the plaintiffs and their respective predecessors in the ownership of said lands subscribed to and became the owners of one share in the defendant's capital stock for each acre of their said lands, and have ever since and now are, owners of said shares of capital stock.

The plaintiffs paid all assessments made under said contract on account of principal and interest up to the year 1926 when the time was extended for such payments. Extensions have been made from time to time by the Board of Governors of the Salt River Valley Water Users' Association. However, the defendant at the time this suit was filed was demanding payment of all assessments for which an extension had been granted or that written applications be signed providing for payment in installments over a period of ten years.

A temporary injunction was issued upon institution of this suit preventing the Salt River Valley Water Users' Association from refusing water service on account of the nonpayment of these back assessments.

The drainage, as provided for in said contract, was installed by the said Salt River Valley Water Users' Association and the water level lowered by pumping and the waterlogged lands were thereby improved; and the danger from the rising of the ground water table was thereby averted upon all of the Tempe lands.

The Salt River Project has been expanded, until with the entry of the plaintiffs' lands, there are now 242,000 acres of irrigated land under cultivation, all having shares or stock in the Salt River Valley Water Users' Association. The building of the Roosevelt Dam was completed in about the year 1910, and the reservoir thereby erected now has a storage capacity of approximately 1,637,000 acre-feet of water.

There have been added three other storage dams and reservoirs: The Horse Mesa Dam next below the Roosevelt Dam reservoir having a storage capacity of approximately 245,000 acre-feet, was completed about 1926. The Mormon Flat Reservoir, which has a capacity of approximately 63,000 acre-feet was completed about 1925; and the Stewart Mountain Dam Reservoir which has a capacity of approximately 70,000 acre-feet was completed about 1930, which make a total rated stored capacity in the Salt River Project at this time of approximately 2,015,000 acre-feet of water. However, it is estimated that the silt in the Roosevelt Reservoir reduced its storage for water to 1,875,000 acre-feet.

There is also being added to the Project the Bartlett Dam upon the Verde River which is now under construction and which will have a storage capacity of approximately 200,000 acre-feet before any silt accumulates in it. The storage capacity of the Salt River Project will then be 2,075,000 acre-feet.

Even with this storage capacity, the shareholders of the Salt River Valley Water Users' Association found that they did not have sufficient water to irrigate their lands properly every season. This was the reason that they secured the approval of the Bartlett Dam for the storage of the Verde River waters.

Some of the Government's reports indicate that the installation of pumps was contemplated by the Reclamation Service for storage purposes and for irrigation. There were some wells installed for pumped water drainage and irrigation in the earlier days of the project. However, the evidence shows that most of the farmers protested the use of pumped water for irrigation and most of the pumps were installed for drainage purposes.

According to the testimony of C. C. Cragin, they were permitted to use the water free if it were going to waste off the project. The Court, therefore, finds that wells installed prior to 1925, with exception of a few, were installed primarily for drainage and that a large percentage of the pumped water was sold outside of the Project; and that the Salt River Valley Water Users' Association did not adopt a policy of pumping water primarily for irrigation until the year 1925 when the water shortage had become so acute.

A resolution was submitted to the shareholders which provided for the installation of pumping equipment and wells for irrigation in 1925 which carried by a vote of four to one; and in the irrigation district comprising the plaintiffs' lands, the vote was approximately ten to one in favor of the Resolution. The Salt River Valley Water Users' Association from that time on established a definite policy of pumping water for both drainage and irrigation purposes, and thereafter wells were installed throughout the Project for both purposes.

Previous to that time, the water from all but three or four of the eighteen wells which had been installed in the Tempe District was discharged into drainage ditches and carried out of the Tempe District so that a relatively small volume of pumped water was allowed to flow into canals used for irrigation of lands in the Tempe District.

The Salt River Valley Water Users' Association by contract with the United States Government dated September 6, 1917, took over the operation of the Salt River Project. While the primary work of the Association has been that of diverter, it has issued bonds for the development of power, has entered into contracts for drainage purposes both of which have been approved by the Supreme Court of our State and installed wells for drainage and has now become a developer of water for irrigation for the benefit of its shareholders.

The plaintiffs in this action are asking this Court, first, to restrain the Salt River Valley Water Users' Association from withholding water from their lands on account of nonpayment of delinquent assessments made for the \$25 per acre charge for back assessments in the Tempe contract; and second, that the Salt River Valley Water Users' Association be compelled to deliver to their lands their proportionate share of the river water and that the Salt River Valley Water Users' Association be enjoined from delivering pumped water in lieu thereof or mixing pumped water therewith in supplying same; and that the Salt River Valley Water Users' Association be enjoined from pumping any water from beneath their lands in excess of such quantities as may be reasonably necessary to properly drain the lands.

The plaintiffs in their brief have grouped the law problems involved in their petition for this relief as follows:

"FIRST. The right, legal or equitable, if any, of the association to enforce payment of installments on back assessments, matured prior to September 4, 1934, by refusing delivery of irrigation water to which plaintiffs' lands are entitled:

"SECOND. The right, power, or authority, legal or equitable, if any, of the association to substitute for the river water belonging with and appurtenant to plaintiffs' lands, either pump water or river water mixed and polluted with pump water; and

"THIRD. The right, power, or authority, legal or equitable, if any, of the Association to pump, from within or beneath plaintiffs' lands, water in excess of such quantity as may be necessary to prevent the ground-water table in said lands remaining so near the surface as to be injurious to those lands or to crops thereon."

Under their first proposition, they contend that the Salt River Valley Water Users' Association has waived its right to withhold water for nonpayment of these assessments for the reason that it has delivered waters after the assessments became due. This right is clearly provided for by contract.

Under the agreement by which the plaintiffs' lands became members of the Project, it is provided:

"* * * all of the District lands shall be provided and thereafter furnished in perpetuity with irrigation and drainage service, including ditches for surface water, equal to the like service, then or thereafter provided and furnished to the Project lands; that the District lands, for, on account of or in connection with which the Association shall accept subscriptions for shares of its capital stock, as herein provided, shall from date of such acceptance be entitled to and receive all the rights, privileges, and benefits and be subject only to the same liabilities and obligations as the Project lands; that the District lands, for, on account of, or in connection with which the Association shall not accept subscriptions for shares of its capital stock, as herein provided, shall, upon the payment of reasonable charges therefor, be entitled to irrigation and drainage service for the Project Lands, but shall not participate in any other rights, privileges, and benefits from the Project or the Association."

It will be noted therefrom that the plaintiffs' lands have the same rights and the same liabilities as all of the rest of the lands in the Project. (Page 9 of the Tempe contract.) All of the lands of the Salt River Project hold stock in the Salt River Water Users' Association.

It is also provided, after setting forth the obligation under which said assessments are made, as follows:

"* * * Said contract shall fully authorize and empower the Association and (or) the United States to levy against each acre of the land covered by such lien and to collect from the subscriber and (or) his successors in the ownership of said land assessments for all such sums as may be necessary to pay said installments and the interest thereon. Said contract shall further authorize and empower the Association and (or) the United States to enforce collection of

all such assessments in the same manner and with the same delinquent interest and penalties as is now or may hereafter be provided for the collection of assessments made by the Association and (or) the United States, against Project lands."

It will be noted from this provision that the Salt River Valley Water Users' Association has the right to collect these assessments by any means authorized and empowered by the Association or the United States in enforcing the collection of all assessments provided for by the Association.

The application to the United States Government for the inclusion of lands in the Salt River Project which became a contract upon its acceptance, provides among other things in Paragraph 7 as follows:

"It is understood and agreed that the United States reserves the right upon my failure or the failure of my successors in interest to keep and perform any of the provisions in this instrument contained, by me and my successors in interest undertaken to be kept and performed, to refuse to deliver water to said lands or to stop the delivery of water thereto if water is being delivered, and such refusal to deliver or stoppage of delivery of water shall not operate to cancel this application, but shall be considered as an additional remedy to the United States to any remedies existing by reason of the provisions of this application or otherwise."

Under this section, the United States Government, without question, had the right to withhold the delivery of water or stop the delivery of water for nonpayment of assessments, even where water was being delivered after the assessment had become due. Under the Tempe contract, the Salt River Valley Water Users' Association was given the same right as the Government. This alone disposes of the plaintiffs' first proposition.

However, in the contract between the United States Government and the Salt River Valley Water Users' Association, dated September 6, 1917, plaintiffs' exhibit No. Z17 in evidence, it is provided in the fifth paragraph thereof as follows:

"The Association will use its powers and resources, cumulatively, if necessary, including the power to withhold the delivery of water, to enforce the rules and regulations made by the Secretary of the Interior under the provisions of law, or by the Association under its Articles of Association and bylaws, for the proper care, operation, and maintenance of the Project and for carrying out the provisions of this agreement."

One of the provisions of this contract was for the payment of assessments for construction charges. This provision of the contract makes it the duty of the Salt River Valley Water Users' Association to withhold the delivery of water, if necessary, to collect back assessments. The Salt River Valley Water Users' Association had not disregarded the delinquent payments to the owners of the Plaintiffs' lands, but in order to help in a depression had extended such payments. It would certainly be a harsh rule if the courts would compel the water users to withhold the delivery of water during times of depression for nonpayment of all assessments when they became due or lose this means of collection.

Take away the right of an irrigation district or water users association to withhold water for collection of assessments, either past or present, and you take away the most effective method for the collection of money necessary to operate a project. To resort to the remedy of foreclosing the lien for the collection of back assessments would require an enormous expense and create a hardship upon all of the water users. It was, no doubt, for this reason that these provisions were placed in the contracts, both by the Water Users and the United States Government.

Under the second law problem presented in the plaintiff's brief, it is seriously contended that the plaintiffs' lands are being damaged by the polluting of the river water with pumped waters or by the delivery of pumped water in lieu of river water for the reason that the pumped water contains a higher salt content than the river water. It is pointed out that the water rights under the Kent Decree and under the laws of this State belong to the lands and not to the diverter, and that the Salt River Valley Water Users' Association, being a diverter, has no right to substitute pumped water for the river water rights. There is no question but that under the Kent Decree and under the laws of this State, as laid down by our Supreme Court, the water rights in the Salt River Project belong to the lands.

This is made clear upon page 9 of the Kent Decree where the Court used the following language:

"The fundamental principle in the doctrine of appropriation of the normal flow of water in a stream for irrigation is its application by the landowner to the land for a beneficial use. The right to appropriate is a right that belongs to the landowner, but the water appropriated is appropriated for the land, and when so appropriated its use belongs to the land and not to the appropriator. The method of diversion from the river and the means of carriage of the water to the land is immaterial in the establishment of maintenance of the right; it may be done by the individual appropriator or by an association of individual appropriators, or by a canal company, or by any person or corporation; and the means of carriage or the point of diversion from the river may be changed from time to time to suit altered conditions without impairing the right of appropriation already made, provided prior rights of others are not interfered with. There being in this Territory no private property in water, but water being a public property subject to the uses before defined, in so diverting and carrying the water such person, association, or corporation acts merely as the agent or the appropriator and acquires no right of appropriation to the water itself, and no rights as against the appropriation made to the land, except a right to proper compensation for such diversion and carriage."

Section 3814 of Arizona 1928 Code provides, in part:

"Water used for irrigation purposes shall remain a right appurtenant to the land upon which it is used."

In the case of *Slosser v. Salt River Valley Canal* (65 Pac. 332), our Supreme Court held that the water right belongs to the land.

I find from the evidence that the plaintiffs' lands have received a higher percent of pumped water than the average delivered to all the Project lands. Only a small percent of the lands in the Project have received a higher percent of pumped water than the plaintiffs' lands. I also find that the water delivered to the plaintiffs' lands contains on an average a higher salt content than the average water delivered to the Project as a whole; and that while the water delivered to some of the Project lands contains a higher salt content than that delivered to the plaintiffs' lands, a small percent of the Project lands have received pure river water on account of their locations; that the reason the waters delivered to the plaintiffs' lands contains a higher salt content than the average water delivered to the Project as a whole is on account of the pumping of water into the canals serving the plaintiffs' lands and because the average water delivered to the plaintiffs contains a higher percent of pumped water than the average water delivered to the Project as a whole.

I further find that on the account of the salt content, the average water delivered to the plaintiffs' lands is less desirable and not as valuable for irrigation purposes as pure river water and not as desirable or as valuable for irrigation as the average water delivered to the whole of the Project.

I also find that the use of water with a high salt content is detrimental to lands upon which it is used for irrigation and if used for a long period of time render such lands of little value for agricultural purposes. Evidence in this case shows that the less salt content the water contains, the more desirable it is for irrigation purposes.

While the water delivered to the plaintiffs' lands is less desirable and not as valuable for irrigation as the average water delivered to the Project, I find that it may be used for irrigation if used in sufficient quantity. This requires a leaching of the soil and therefore a larger quantity of water to accomplish the same result or to approximate the same result. According to the evidence in this case if a farmer should use the same amount of the quality of water delivered to the plaintiffs for irrigation as would be required to irrigate properly the same amount of land with river water, the use of this quantity of water would in time prove detrimental to his crops and his lands.

I find that the lands in the Salt River Project have three sources of water supply: the unstored flow of the river, the stored water, and the pumped water. The "A" lands alone are entitled to unstored flow water and the "A," "B," and "C" lands entitled to unstored, stored, and pumped water. The question is whether the Salt River Valley Water Users' Association in supplying the respective water rights to the lands can be compelled to deliver any particular class of water where there is a difference in the quality of the two classes.

As has been shown, the Tempe lands have the same rights and liabilities as any other shareholder in the Salt River Valley Water Users' Association except the additional liability to pay back assessments.

Section Six, Article Five, of the Articles of Incorporation of the Salt River Valley Water Users' Association provides as follows:

"The amount of water so to be delivered to such owner shall be that proportionate part of all stored and developed water, the storage or development of which is or may be effected by this Association, or by means of works under its control, management, or direction, or which may become available for distribution by this association from irrigation works built by the National Government during any irrigating season, as the number of shares owned by him shall bear to the whole number of valid and subsisting shares of the Association issued and then outstanding, to be delivered to and upon said lands at such times during such season as he may direct."

It will be noted that the Articles of Incorporation classify the water as stored and developed. Stored water in the Salt River Project is river water and developed water is the pumped water. It will also be noted that the Articles do not provide that one must be delivered separate and apart from the other.

Both the plaintiffs and the defendant have filed exhaustive briefs upon this subject, but neither had cited a precedent directly in point. It is my opinion that the Water Users' Association may make general rules for the distribution of water so long as the same are equitable. The evidence in this case shows that the reason the Salt River Valley Water Users' Association began to use pumped water for irrigation and that the reason that the shareholders voted the use of the same was because there was an acute water shortage.

Between the years 1924 and 1935, at least in five years there would not have been sufficient water for irrigation in the Project. Plaintiffs' witness, C. C. Cragin, General Superintendent and Chief Engineer of the Salt River Valley Water Users' Association from 1920 to 1933, testified as follows (page 1361), Reporter's Transcript) :

"Q. And in the normal operation of the project you had to draw heavily on the underground in years of deficiency and then let up in years of plenty?"

"A. That is my opinion.

"Q. In other words, the flow of the river in this Southwestern area is not sufficiently constant with reservoirs, to make a reasonably constant supply of water for irrigation?"

"A. That is my opinion, always has been.

"Q. There is more water came down the Salt and Verde River in 1905 than there had in the seven years previous?"

"A. About five million acre-feet came down that year, I would say about twice as much as came down the previous seven years. No, I guess not. Materially more came down in 1905 than there did in the previous seven years.

"Q. And if it hadn't been for pump water from the year 1924 to the present, this project would have met with disaster?"

"A. Absolutely; yes.

"Q. And that would have meant disaster not only for the "C" lands, but also for the "A" lands?"

"A. Such a calamity couldn't help but injure every person in the valley."

The defendant's witness, G. Lawson, connected with the Project since 1914 and General Superintendent and Chief Engineer since 1933 testified as follows (page 1588, Reporter's Transcript) :

"A. The pump supply or the ability to pump water from under this project in emergencies is the only thing that has saved this project from absolute disaster for many years in the last 10 or 12, and the purpose of having these pumps is to have an emergency supply. They are an insurance of our water supply. In this southwest country there is not enough water in the region, that comes down the river, to supply the lands that are irrigated in this area. Consequently, in certain years that is true. Other years there is plenty, but many years there is not enough and the pumps are the things that provide the insurance of the water supply and prevent disaster when water is short, which is frequently."

The evidence tends to show that there has not been a sufficient amount of water used in irrigation. The Salt River Project has, therefore, had confronting it a problem of reducing its acreage or increasing its water supply. When land is included in an irrigation project, it is difficult to reduce the acreage; so the Project in trying to find additional water has resorted to the underground supply. It has always been a problem in forming irrigation projects to determine just how much land should be included.

S. T. Harding, Professor of Irrigation, University of California, in his book Water Rights and Irrigation, Principles and Procedure for Engineers, on page 27 thereof, used the following language:

"Owing to the higher cost of construction necessary for present new projects, it is generally essential to include the maximum area which the available water

can supply. To increase the area served and to secure full use of all water diverted, plans for such projects now frequently include the recovery and use of their own water losses. This may be accomplished within the project area by picking up the return flow that may reach watercourses, by constructing drains bringing water to the ground surface high enough to be used, or by pumping from the ground water at locations from which the discharge can be reused. Such recovery of water may be essential in order that the area served may be large enough to reduce the average construction costs to an amount which the lands can afford. Similar results may be secured from the sale of such recovered water for use on areas outside of the area of the project creating such return waters."

It may be that too much land has been included in the Salt River Project. This would be a question of policy. The question here is whether the two waters—namely, river and pumped water, may be comingled in supplying water rights which definitely belong to the lands.

The evidence clearly shows that in order to first supply the plaintiffs' lands and the other lands throughout the Project with their respective portions of river water before delivering pumped water to the lands entitled thereto, it would be necessary to build a double canal system, one for river water and one for pumped water, for the reason that some of the farmers now on the same ditch would, without question, exhaust the river water allotted to them before others, and would be compelled to resort to their rights to the pumped water.

The evidence further discloses that owing to the great depth and the enormous expense in pumping therefrom, it is impossible to give each and every landowner the same proportionate amount of pumped water comingled with river water.

The shareholders in 1925 authorized the pumping of water for irrigation purposes and amended their Articles of Incorporation on April 2, 1935, prohibiting the use of any developed water of the Association outside of the exclusion line of the Salt River Project as now established without an affirmative vote of three-fourths of the shores of stock of the Association, all of which shows that they were approving the use of pumped water in the Project itself. They have at no time provided for the construction of a double canal system; we must therefore conclude that the shareholders intended that the present canal system be used and that the water be comingled.

In the case of *Nuches and Cowiche Ditch Company v. Weikel et al.* (151 Pac. 494), the plaintiff sought to enjoin the defendants from allowing water used for irrigation to flow from their lands to Cowiche Creek from which they secured their supply of water, the plaintiff having a prior right to the water. The plaintiff alleged that it was being damaged by the defendant's polluting the water. The court in disposing of this question, used the following language:

"And so, in this case, this natural stream is a natural outlet for the drainage of waters from these highlands. The proprietors of these highlands adjoining this natural outlet have the same right to drain their lands into this creek that the plaintiff does to take the water from the creek; and so long as the defendants make a reasonable use of the stream, and are not negligent in conveying waste waters into the stream, we are satisfied, under the authorities above quoted, that the plaintiff has no right to complain of the reasonable use of the stream by the upper proprietors, even though there is a slight damage to it by reason of the water being slightly polluted. The plaintiff must accommodate its appliances for irrigation to the conditions which a reasonable use may require. As we have indicated above, the only damage that is shown by the appellant is that some silt has settled in its canal and in the pipes used for irrigation. Until the plaintiff can show an unreasonable use by the defendants in conveying waste waters into this creek, there is clearly, we think, no cause for an injunction."

The Supreme Court of the United States, in the case of *John S. Atchison v. Peterson* (22 Law Edition 414), in passing upon the right to pollute water of a prior appropriator, said:

"What diminution of quantity, or deterioration in quality will constitute an invasion of the rights of the first appropriator will depend upon the special circumstances of each case, considered with reference to the uses to which the water is applied. A slight deterioration in quality might render the water unfit for drink or domestic purposes, whilst it would not sensibly impair its value for mining irrigation. In all controversies, therefore, between him and parties subsequently claiming the water, the question for determination is necessarily whether his use and enjoyment of the water to the extent of his original appropriation have been impaired by the acts of the defendant. This is substantially

the rule laid down in *Hill v. Smith* (27 Cal. 483; Yale, Mines, 194). But whether, upon a petition or bill asserting that his prior rights have been thus invaded, a court of equity will interfere to restrain the acts of the party complained of, will depend upon the character and extent of the injury alleged.

* * * * *

The injury thus sustained, and which is only to a limited extent attributable to the mining of the defendants, if at all, is hardly appreciable in comparison with the damage which would result to the defendants from the indefinite suspension of work on their valuable mining claims."

It is my opinion that the question in this case is whether the Salt River Valley Water Users' Association have been reasonable and equitable in its distribution of the water. As pointed out above, the evidence shows that it is impossible to give every landowner the same amount of pumped water because of the expense of pumping a great depth and the source of supply underneath the lands, and it being impossible to distribute the waters from the wells in the parts of the project where drainage is needed most to the higher lands in the project.

If this court should compel the Water Users' Association to exhaust the supply of river water before using any pumped water in supplying water rights, it would mean that the plaintiff's lands and other lands similarly situated in the project would have plenty of water at all times but that in times of an acute water shortage, the lands in the higher regions would not secure sufficient water to irrigate properly their crops while they would be compelled to help pay for the expense of draining the plaintiffs' lands and receive little or no benefit therefrom.

It is, therefore, my opinion that the Salt River Valley Water Users' Association has a right to commingle the pumped and river water in supplying the water rights of the various lands of the project so long as they do it equitably. It is also my opinion that inasmuch as I find from the evidence that it takes a larger quantity of pumped water to accomplish or approximate the same result as river water, the Salt River Valley Water Users' Association should make up this difference by supplying a sufficiently large quantity of water mixed with pumped water to make up the difference in the quality and to enable the landowners to leach their lands when necessary without additional expense.

The question of how much larger percent of mixed water to deliver in place of pure river water to accomplish or approximate the same result and the proper mixture to deliver is a detail which should be worked out by the water users. A court of equity should not interfere so long as it is equitable. The plaintiffs have not asked this court to compel the delivery of a larger quantity of water on account of receiving pumped water, and the evidence does not show a demand made upon the defendant or that the defendant refused to deliver a large quantity of water.

I am therefore going beyond the issues of this case and trying to point out what I consider an equitable solution of the difficulties between the plaintiff and the defendant.

C. C. Cragin testified in regard to the use of pumped water:

"* * * and when you get through, you have used approximately 25% more pumped water to accomplish the same thing, and that is my belief and observation and experiment for 14 years, and you can't change that opinion."

Some of the plaintiffs so corroborated Mr. Cragin in this opinion. However, inasmuch as the percent would vary with the amount of salt in the water and inasmuch as little evidence was given on this subject, I feel the water users should carefully work out a complete plan for the use of this water, using all available scientific knowledge. Certainly there is little or no excuse for giving a water user pure pumped water without his consent. The water users should go to some expense to see that no one is compelled to accept pure pumped water. When this plan is worked out, I believe the objections to the use of pumped water will be minimized.

The evidence shows that it is a policy of the Salt River Valley Water Users' Association to pump water for irrigation purposes only when there is a water shortage; that in the years when there is plenty of river water, they pump only for drainage purposes. It is my opinion that it would be unequitable to enjoin the Water Users from commingling the pumped water with the river water in times of water shortage, even though the pumped water is less desirable, provided that the water users were giving every shareholder as near the same service as equitably possible.

It is my opinion the third law problem—namely, the power or authority of the Salt River Valley Water Users' Association to pump water in excess of such

quantity as would be necessary to regulate the ground water table and prevent danger of waterlogging, presents the same questions involved in the case of *Brewster v. Salt River Valley Water Users' Association* (27 Ariz. 23, 229 Pac. 929). The Court found that the Salt River Valley Water Users' Association had the right to pump from underneath the lands belonging to members of the Association for drainage purposes. It is my opinion that the same reasoning would apply to pumping water for irrigation during water shortage as pumping for drainage. I think this case clearly disposes of this contention.

The Court in the Brewster case used the following language:

"If, however, it be determined that each shareholder of the Association is as much the owner of the water that forms in it from irrigation as he is of his land, still we think on account of his contractual relation, arising by virtue of his membership in the Association, he is or ought to be bound for the common good to surrender ownership and dominion of such water when the Association has concluded it to be to the best interests of all to drain the water out of the lands of the project (*Orme v. Salt River Valley Water Users' Assn.*, supra). As such owner has submitted by the terms of the charter to employ the Association to carry from the river and the reservoir, and distribute to his lands this proportionate share of irrigation water, in order that he may realize on his lands, so likewise when his land becomes so thoroughly saturated with water as not to be productive, he has consented that the same organization may 'construct, install, operate, and maintain pumps, ditches, conduits, and other drainage works for draining any or all of the lands receiving water through the irrigation works of the Association.'

* * * * *

"Indeed, we do not gather that appellants contest, either as owners of the waters or as shareholders of the Association, the right to dewater the waterlogged territory, but do object to the lowering of the underground water level to a depth that will prevent crops and vegetation from receiving moisture by capillary attraction, and to the length of the contract, and to the unconditional disposition of the water, contending that the Association should retain the right to use water in case of need. The right to unwater being found, the depth thereof, the term of the contract, and disposition of water become matters largely of detail, and unless clearly shown to invade some right of the appellants should be left to the determination of the Association (*Bethune v. Salt River Valley Water Users' Assn.*, supra)."

For the reasons set forth herein, it is my opinion that the defendant is entitled to have the temporary injunction dissolved and the relief prayed for in plaintiffs' complaint denied. It is not necessary for me to pass upon the questions raised by the defendant as to the jurisdiction of this court for the reason that I find from the merits of the case that the relief prayed for should be denied.

Done in Open Court this — day of February 1937.

ERNEST W. MCFARLAND, Judge.

AFTER RECESS

(The recess having expired, the committee reconvened at 2:30 p. m.)

The CHAIRMAN. The committee will come to order. Come around, Mr. Witness.

Senator MCFARLAND. Mr. Chairman, some of them have requested that Mr. Scott be permitted to explain who the people are that signed these resolutions.

The CHAIRMAN. Do they not speak for themselves?

Senator MCFARLAND. They did not think that they sufficiently spoke for themselves. Inasmuch as they wanted that, I would like for them to be given that privilege.

The CHAIRMAN. All right. Get on, Mr. Scott.

Mr. SCOTT. I believe that the stenographer has them. He is bringing them back.

The CHAIRMAN. Do they not show who signs them? Are not the names attached? Do they not tell who they are?

Mr. SCOTT. I have not read them myself, Senator.

The CHAIRMAN. Then I do not see how you can explain them.

Mr. SCOTT. I saw some of the names, I know who they are.

The CHAIRMAN. All right; bring around this other witness. Senator McCarran. I beg your pardon.

Senator McCARRAN. Mr. Chairman, I had hoped that you might be able to have the State engineer of the State of Nevada the first thing this afternoon, but I just hoped that.

The CHAIRMAN. We will try to hear him during the afternoon some time. We have got a witness on right in the middle of his testimony.

Senator McCARRAN. I do not want to interrupt him.

The CHAIRMAN. We want to be considerate, Senator.

Senator McCARRAN. That is all right.

The CHAIRMAN. I think we can hear him. If we see we cannot we will stop this witness to put him on. How long will it take you, Mr. Smith? I believe you are the engineer.

Mr. SMITH. I think, about 20 minutes.

The CHAIRMAN. Have you been here during these hearings?

Mr. SMITH. Yes, sir.

The CHAIRMAN. How long have you been present?

Senator McCARRAN. They have been here about 4 days.

The CHAIRMAN. Come forward, Mr. Tipton. We will try to hear Mr. Smith. If he takes only 20 minutes I am sure we can hear him.

**FURTHER STATEMENT BY R. J. TIPTON, CONSULTING ENGINEER,
SIX STATES COMMITTEE, DENVER, COLO.**

The CHAIRMAN. Go ahead, Mr. Tipton. As I understood you this morning, you are appearing as the representative of what is called the Six States Committee.

Mr. TIPTON. That is correct, sir.

The CHAIRMAN. And you named the States, and all the States affected, excepting California and Nevada; is that right?

Mr. TIPTON. That is right, sir.

The CHAIRMAN. All right; go ahead.

Mr. TIPTON. Mr. Chairman, gentlemen of the committee, I mentioned yesterday that there had been prepared for the Committee of Six certain memoranda. These memoranda are in three volumes. Volume No. 1 is a legal memorandum on the treaty expressing the views of the Committee of Six. Volume No. 2 is an engineering memorandum on the treaty, prepared by myself. Volume No. 3 is a compilation of some of the background documents such as the compact, a sample California contract, the Boulder Canyon Project Act, and other matters.

I would like at the proper time to submit for the record my memorandum which appears in volume 2. That will materially shorten my oral testimony. There will be certain changes in the memorandum, a few typographical errors; there will be a change in the treatment of the water supply due to testimony that has been put on during this hearing and due to further conferences with the Bureau of Reclamation. The printer's copy will contain those changes.

Senator McFARLAND. May I ask if there have been sufficient volumes of this brief so that it could be furnished with the printed record to the Senators? Do you have a sufficient number?

Mr. TIPTON. For all of the Senators?

Senator McFARLAND. Yes.

Mr. TIPTON. Yes, sir; and there have been distributed to the committee the three volumes that I have described.

Yesterday I gave an outline of the oral testimony that I was to present. I had covered a large portion of the first item, which was a comparison of the terms of the treaty in respect to the Colorado River, with the so-called Mead offer of 1929 and the use of water before Boulder Dam. I had discussed the comparison between the terms of the treaty and the Mead offer. I think that it is very important for us not to lose sight of the main issue. I am saying that because the Committee of Six kept that in mind at all times. We considered the main issue to be a definition of the equitable share of Mexico in the uses of the waters of the Colorado River.

We believe that this treaty has so defined that share. We do not believe that by any definition could the share be lower than the terms of the treaty provide.

My first item about which I testified yesterday was one of the elements considered by the Committee of Six.

Senator WILEY. Is there any question in your mind as to whether that definition of the amount is clear? Do you think the treaty could be made clearer in relation to the 1,500,000 firm water and the other question as to whether or not they could obtain another 1,500,000 by use?

Mr. TIPTON. I think, Senator, that is largely a legal question, but to me the language of the treaty is clear.

Senator WILEY. Yes.

Mr. TIPTON. I am an engineer. In my own opinion the interpretation that has been placed upon those provisions of the treaty during these hearings—and I say it in all respect and kindness—I think the interpretation is rather farfetched, and as a layman, so far as the law is concerned, by no stretch of the imagination can I interpret subparagraphs (a) and (b) of article 10 of the treaty in such a way as would permit Mexico to claim 3,000,000 acre-feet of water.

I say that for this reason. Subparagraph (b), which seems to cast the doubt, says:

Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system, for any purpose whatsoever, in excess of 1,500,000 acre-feet.

Now, suppose that it were interpreted that subparagraph (a) allocated to Mexico an additional 1,500,000 acre-feet; what would Mexico do with that 1,500,000 acre-feet? Subparagraph (b) expressly limits her rights to 1,500,000 acre-feet "for any purpose whatsoever." Now, where would the other 1,500,000 go? It would have to run to the Gulf of Lower California if it were conceived in any way that the United States were to be obligated to turn down that extra 1,500,000; so I say as a layman in the matter of law, I think the interpretation is rather farfetched. If there is any ambiguity, certainly it should be cleared up.

Senator WILEY. Yes; you agreed that if there is a chance for ambiguity, that is one thing should be cleared up?

Mr. TIPTON. There is no question about it, sir; but I can see no ambiguity.

Senator WILEY. And there is no question in your mind that the intent of those who drew the treaty was to limit the amount that Mexico could have to 1,500,000, and limit her right by use in the future to that same 1,500,000?

Mr. TIPTON. That is correct, sir.

Senator WILEY. So that she could not by the use of any additional amount acquire any rights in equity or comity?

Mr. TIPTON. That is correct, sir; that was the exact intent, and the Mexican negotiators understood it perfectly; and if there is any ambiguity in the language and it appears necessary to clear it up, there is no question that there will be no difficulty with the negotiators for Mexico in clearing it by the proper procedure.

Senator MURDOCK. Mr. Chairman, may I ask a question?

The CHAIRMAN. Yes.

Senator MURDOCK. Is there any question in your mind, Mr. Tipton, now, after hearing the very distinguished lawyer from Arizona testify this morning, that there is an ambiguity in the language used in subparagraph (b)?

Mr. TIPTON. Well, Senator, the Committee of Six will have equally distinguished—

Senator MURDOCK. I am not talking anything about the Committee of Six; I am asking you a simple question, that if, after listening to an able lawyer this morning construe this subparagraph (b), is there any doubt in your mind but what it is ambiguous?

Mr. TIPTON. Well, there is no doubt in my mind about it.

Senator MURDOCK. Maybe not to you, but I mean to the lawyers.

Mr. TIPTON. There is no doubt in my mind, Senator, because equally distinguished attorneys for the Committee of Six do not think there is ambiguity.

Senator MURDOCK. Is not that what makes ambiguity, where we have one lawyer saying "it means this," and another lawyer saying "it means this?"

Mr. TIPTON. May I repeat my answer to Senator Wiley, sir—if there is ambiguity or a chance for misinterpretation, in my opinion there will be no difficulty whatsoever in clearing it up.

Senator WILEY. By protocol?

Senator MURDOCK. Taking your own statement, now, that an equally able lawyer for the Committee of Six construes it in one way, and another lawyer let us say of equal distinction, who testified this morning, construes it another way; certainly there is ambiguity there, is there not, that should be cleared up?

Mr. TIPTON. If we should concede that that may be true, sir, I say there will be no difficulty about clearing it up, because I know what the intent was.

Senator MURDOCK. And as a good engineer, if there is a difference of opinion between two lawyers, equally good lawyers let us say, as to what it means, as a good engineer you should think it should be cleared up?

Mr. TIPTON. Certainly, sir. But in my opinion there is no ambiguity in the language of the treaty.

Senator MURDOCK. That is all.

Mr. TIPTON. But I would prefer not to go too deeply into that. I would prefer to have the attorneys for the Committee of Six discuss

that before the committee. It is a matter for the committee after all to decide whether or not there is ambiguity.

Senator MURDOCK. Surely; and, of course, the committee will decide it on the basis of the evidence that comes before it; I hope so.

Mr. TIPTON. That is correct; and I am a very poor witness on a subject of this sort because I am not versed in the law.

Senator WILEY. May I ask a question, Mr. Chairman?

Senator JOHNSON (presiding). Surely.

Senator WILEY. You used the statement—I do not recall whether I got it exactly, but it was something to the effect that the amount of 1,500,000 was arrived at as an equitable amount that Mexico was entitled to.

Mr. TIPTON. Yes, sir.

Senator WILEY. Do you mean that the negotiators of the treaty used that yardstick as a basis; is that what you mean?

Mr. TIPTON. Yes, sir; I think in any negotiation of this sort that does become a yardstick.

Senator WILEY. All right. Now did you take into consideration in arriving at that the fact that there was a question of equity in our nationals?

Mr. TIPTON. Yes, sir; yes, sir.

Senator WILEY. All right.

Mr. TIPTON. We were considering our nationals, sir, when we negotiated this treaty. That was the prime consideration, our nationals, and not the nationals of Mexico, sir.

Senator WILEY. In arriving at this basis of equity did you consider (1) that the proof seems to be pretty nearly unanimous as I remember it that at no time up to this very time, with the exception of the last year or so, Mexican nationals have ever used over 750,000 acre-feet?

Mr. TIPTON. That is one item that I attempted to clear up yesterday, Senator, that to compare the so-called 750,000 acre-feet with the 1,500,000 acre-feet that is guaranteed in the treaty, there must be added to the 750,000 acre-feet the canal losses which include seepage and wastes, that is necessary to get the 750,000 acre-feet down to the heads of the laterals of the Alamo canal that serves the Mexican territory. I think that the committee has been misled—I do not say intentionally at all—by the frequent quoting of the figure of 750,000 acre-feet as the amount that Mexico used before Boulder.

The 750,000 acre-feet, Senator, was the amount of water that was delivered from the canal to the laterals of the Mexican canal.

Senator WILEY. Before Boulder?

Mr. TIPTON. Before Boulder; yes, sir. Now, how much water is required at the headgate of the Alamo canal to get the 750,000 acre-feet down to the laterals of the Mexican canal? I testified yesterday that it was perfectly proper to carry on the accounting in that fashion because the charges were made on the basis of the water that was delivered to the laterals.

Senator McCARRAN. Delivered to the lateral, or to the land?

Mr. TIPTON. To the main laterals, sir. I understand the Mexican corporation took the water from that point and made its own distribution of the water to the sublaterals and the farms.

Senator McCARRAN. Then you figure that this is a guaranty to furnish a head by which 750,000 feet will be delivered to the account?

Mr. TIPTON. Oh, no; it goes beyond that. In considering this there will be a number of elements which I will develop in my testimony, and that is not the only item that was considered but I do want to make it plain.

Senator McCARRAN. I want to get that clear as to what you mean by "head." I think I know what it is, but I am wondering if there are those who do not know.

The CHAIRMAN. May I intervene, there? You mean, by reference to the head, that there would have to be more water furnished at the head than was delivered to the laterals?

Senator McCARRAN. That is right.

The CHAIRMAN. That is because a lot of it would be consumed in getting down there. Is that what you mean?

Mr. TIPTON. That is correct, sir.

May I call attention to this map which is entitled "Colorado River-Imperial Dam to San Luis, Arizona," showing flood-control and irrigation facilities. The number of the map is SSC-11 and in the memorandum No. 2 which you have before you, you will find a copy of it on page 100. The Alamo canal diverts a short distance above what is termed the "upper boundary" between the United States and Mexico, as has been previously testified to, and flows into Mexico; and then, finally, back to the United States. The 750,000 acre-feet that has frequently been mentioned and all other uses made by Mexico of water prior to Boulder as reported were not in terms of the amount of water that was diverted at the head of the canal for Mexico; it was in terms of the net delivery to Mexico at the heads of her laterals.

Yesterday, I said many matters involved in the question before the committee can be appraised from a common-sense viewpoint. Fine-spun engineering theories are not required. Prior to the building of the All-American Canal when both United States water and Mexican water was diverted through the Alamo canal, it was difficult to separate the losses and charge them either to Mexico or to the United States. Actually there were no canal losses charged to Mexico. Let me say again that was proper for the purposes of accounting because the subsidiary of the Imperial irrigation district in Mexico charged for the water that was delivered to the laterals, not for what was diverted into the headgate. There must be a certain amount of water in the canal to carry the balance of the water through. That is what we call a regulation return; it at one time was called waste; even at present it is called waste by some. That is a necessary part of the operation. When the two waters were being carried together the United States water formed the carriage water for the Mexican water. The Mexican water rode along here on top of the United States water. There was an over-all loss of something over 30 percent.

How much of that loss should have been charged to Mexico no one knows; but now, after the two blocks of water have been divorced and the United States water is being carried in the All-American Canal and the Mexican water only is being carried in the Alamo canal, and there is being irrigated by the Alamo canal less acreage than the acreage that was being irrigated when the so-called 750,000 acre-feet was used, the actual diversion for the present acreage provides a true measure of the amount of diversion before Boulder that should have been charged to Mexico.

The diversion from the river for each of the last 2 years has been about 1,100,000 acre-feet. We do not have to theorize but by common sense we can conclude that to deliver water to Mexico to a lesser acreage than Mexico was irrigating when she was receiving the 750,000 acre-feet at her laterals requires at this moment a diversion of about 1,100,000 acre-feet from the river.

So in terms of water let us not think that this 1,500,000 acre-feet provided by the treaty is double the amount that Mexico used prior to Boulder, because it is not. We can assume that if Mexico had been charged with her proportion of the canal losses prior to Boulder, that the amount of water diverted at the headgate for use of Mexico, in order that she could receive the 750,000 acre-feet, at the heads of her laterals, was of the order of 1,100,000 acre-feet and not 750,000 acre-feet. To place the treaty water in the same category as the water used by Mexico before Boulder the 750,000 acre-feet delivery to the Mexican laterals must be converted to diversion duty. Incidentally, the United States Bureau of Reclamation in a report published in 1939 gave the losses of 24 canals that they were operating, which included its experience up to that time. The average loss of those canals—what I mean is, that is the difference between what was diverted at the headgate and what was available for use—was 49.1 percent. The canal losses here are in the order of some 30 percent, when it is assumed a diversion of 1,100,000 acre-feet is required to supply the laterals with 750,000 to 800,000 acre-feet. That is one thing that must not be lost sight of. That was the point I was coming to in my next order of presentation.

It may be concluded that diversions from the river for Mexico were some 1,200,000 or 1,100,000 acre-feet, which places the uses in the same category as the 1,500,000 provided by the treaty. Mexico at the same time was pumping water, using water from the Yuma drain in the order of some 60,000 to 70,000 acre-feet, and there was flowing into Mexico additional large volumes of water that were available for use.

Later in my testimony I will indicate that one of California's own witnesses, 20 years ago, testified that Mexico was irrigating 217,000 acres, and that the next year—the next year from that date was 1926—she desired to irrigate another 100,000 acres, which she would have in crop, but the Imperial irrigation district was going to attempt to resist the delivery of water to the additional 100,000 acres. That will come later in my testimony.

Senator McCARRAN. Do I understand you to say that there is less land being irrigated now from the Colorado River in Mexico than there was before Boulder Dam?

Mr. TIRTON. No, sir; I said there was less land according to the testimony, being irrigated under the Alamo canal than the maximum amount that was irrigated before Boulder. I think Mr. Lawson testified that at present there are—I do not remember the exact figure—one-hundred-and-ninety-and-some-odd thousands of acres being irrigated. Before Boulder the record indicates that the maximum was 228,000 acres. I will testify to that if it is not in the record; and in 1925 it was 217,000 acres.

The total amount, Senator, irrigated by Mexico at the present time is in the order of 300,000 acres; but that includes some 100,000

acres of land that is receiving water in the lower delta and also a fairly nominal acreage in Sonora that is receiving water from the Yuma drain.

Senator WILEY. I remember some testimony here—the exact figures are not clear in my mind—that seemed to indicate for a number of years the amount of that water that Mexico had gotten for irrigation purposes would average somewhere between 300,000 and 600,000.

Mr. TIPTON. I think the figure, Senator, was 600,000. The average was 600,000, over a certain period of years; and again, sir, that was the net amount delivered to the laterals and was not in terms of diversion from the river at the headgate.

Senator WILEY. Then you mean that 1,500,000 feet delivered at the canal gives the 750,000 feet at the laterals?

TIPTON. Well, some such amount; in that order.

Senator WILEY. Yes; roughly speaking?

Mr. TIPTON. Yes; that is correct, sir.

Senator WILEY. In other words there is a loss of 50 percent there between delivery at the canal and delivery at the laterals?

Mr. TIPTON. Oh, you mean to say the 1,500,000?

Senator WILEY. Yes.

Mr. TIPTON. Oh, no, sir; I did not say that. I say it takes about 1,100,000 acre-feet diverted to irrigate in the order of 200,000 acres, as demonstrated by the actual diversions the last 2 years, sir.

Senator WILEY. Then, I come back to my original question, which is that it is a matter of equity. You considered the proposition of what they had been receiving, and you apparently upped that 400,000?

Mr. TIPTON. Now, there are many elements that go into that, which will run through my testimony here. If it is your desire that I isolate that point at this time, I shall be glad to do so; or if you think it would be better for me to follow the continuity and bring them out as I go along, I shall do that. I shall endeavor to conform to the desire of the committee.

Senator McCARRAN. Before Boulder Dam, Mexico had no guaranty?

Mr. TIPTON. No, sir.

Senator McCARRAN. She took the water as she could get it?

Mr. TIPTON. Except guaranties as between private interests—concessions.

Senator McCARRAN. But Mexico took the water when, as, and if she could get it?

Mr. TIPTON. She took the water under her concession, which was granted to permit the construction of the Alamo canal through her territory. That was not a grant, however, to the United States.

Senator McCARRAN. We were not guaranteeing it?

Mr. TIPTON. The United States did not guarantee it; that is correct.

Senator WILEY. Let me interrupt once more, and I do not want to interfere with your development of the subject if you are going to answer my question. Will you set up the basis for what you call the equitable treatment—the different elements that constitute equity? Will you do that seriatim?

Mr. TIPTON. That is what I intend to do.

Senator WILEY. Then, you are going to justify not only the 1,500,000 acre-feet but a guaranty of that amount?

Mr. TIPTON. Yes, sir; I am going to attempt to do so.

Senator WILEY. All right.

The CHAIRMAN. At the border, and not at the laterals?

Mr. TIPTON. That is correct, sir.

There is one other element which I went into yesterday. I shall only mention it in passing at this moment. The Mead offer of 1929 has been spoken of as something that was considered to be equitable. The Mead offer of 1929 was a delivery of 750,000 acre-feet to the laterals of the Alamo canal and that consideration would be given to a diversion of a sufficient amount of water to take care of canal losses, and then it went further and mentioned that Mexico would receive further amounts below the point of diversion, which would—

undoubtedly be an important factor in further irrigation development in Mexico, but the use of this surplus water in Mexico cannot be regarded as establishing a right to such water as against the United States.

Senator WILEY. Was that a guaranty too?

Mr. TIPTON. No; that was not a guaranty.

Senator WILEY. I did not think so.

Mr. TIPTON. I mentioned yesterday that I thought the Mead offer would have been bad for both the United States and Mexico. I mentioned that we see today what the Mead offer would have meant had it been in effect. The Mead offer, properly, was attempting to protect the existing development in Mexico and the existing civilization. We see at this day—this moment—the amount of water that is required to be diverted from the river to irrigate not 217,000 acres or 228,000 acres that were under cultivation when Mead made his offer, but something less. We see that that amounts to a diversion of 1,100,000 acre-feet from the river to Mexico and she is dipping into the other block of water which Mead said would undoubtedly be an important factor in further irrigation development in Mexico to the extent of 600,000 or 700,000 acre-feet to irrigate another 100,000 acres.

I said that, in my opinion, the Mead offer, if it had crystallized into the form as made, would not have been good for the United States or for Mexico. The Mead Commission, incident to the offer, represented to Mexico that other waters would be available which undoubtedly would be an important factor in her further irrigation development.

Mexico did not know and had no means of knowing how much that class of water might have been under ultimate conditions. For that reason the offer was not good from her standpoint. The offer may have been bad from the standpoint of the United States, because we certainly would have been faced with some difficulty in the future when, despite the implied promises that these other waters would be an important factor in Mexico's development we began, at some future date after Mexico had put these waters to beneficial use, to withdraw them from Mexico. The extent of the "important factor" was not defined.

So I say that this treaty is better for both countries than would have been the Mead offer since it definitely fixes the amount of water that Mexico will receive.

Senator WILEY. It was fixed before as a matter of use; now it guarantees that, althought it may result in interference with the use in the upper stretches?

Mr. TIPTON. I will come to that question. One of the subjects which I am going into next is the effect of the terms of the treaty on the present and potential users of water in the United States.

Senator MILLIKIN. The guaranty, from the standpoint of the United States, is to cut back present use and hold it as against possible future expanding use?

Mr. TIPTON. I was going to mention two things, Senator. One is that. In my opinion it is important, so far as the United States is concerned, to crystallize at this moment, at the lowest possible figure, the amount of water that Mexico can at any time claim in the future.

Senator JOHNSON of California. That is the Mead offer?

Mr. TIPTON. No; I am speaking of the intent of this treaty from our standpoint—the desirability of any treaty at this time. We believe that the treaty allocates to Mexico the lowest possible quantity of water, and I think this will become plain from our standpoint as I proceed. Others may not agree.

Senator MILLIKIN. I was not driving at the point of what the correct figure is.

Senator JOHNSON of California. You say “from our standpoint.” Whom do you mean?

Mr. TIPTON. The United States, including California, sir.

Senator JOHNSON of California. Are you speaking for California or the United States, now?

Mr. TIPTON. At the moment, sir, I am speaking for the Six State Committee, and I believe that the interests of the Six State Committee are not far different from the interests of any other State or interests in the basin; that is, to keep the allocation of water to Mexico, or the definition of her equity, at the lowest possible amount. We believe firmly, sir, that this treaty has done it.

Senator JOHNSON of California. Has done what?

Mr. TIPTON. We feel that this treaty has accomplished the objective which we have all had in mind for many years. I can develop that as I go along; but getting back to Senator Millikin's second statement—

Senator JOHNSON of California. Just a minute.

Mr. TIPTON. I had not answered Senator Millikin.

Senator MILLIKIN. I yield to the Senator from California.

Senator JOHNSON of California. Tut! Go on.

Senator MILLIKIN. I am delighted to yield to the Senator.

Mr. TIPTON. His question is in the record; I will answer it.

Senator MILLIKIN. I am perfectly willing to yield to the Senator.

The CHAIRMAN. Go ahead and answer the question.

Mr. TIPTON. Continuing the second phase of Senator Millikin's question, the use of United States facilities to control the water would have the effect—and did have the effect—of materially reducing claims by Mexico and did have the effect of bringing about an agreement at this time which we believe is essential. There could be no agreement at this time, certainly, on any lesser quantity of water.

I shall show you in my testimony that Davis Dam has been authorized for construction by Congress. It was authorized several years ago, in 1941, I believe. One of the stated purposes in the authorization for the construction of that dam and reservoir was to meter out water to Mexico in the event that a treaty was negotiated.

I shall show in my testimony that Boulder Dam could be removed from the stream at this time, and it would require less than one-half of

the capacity of the reservoir created by Davis Dam—which incidentally will have a capacity of only 1,600,000 acre-feet—to enable the United States to comply fully with the terms of this treaty. In other words, Davis Dam has been authorized by Congress, and one of its purposes is to meter out water to Mexico. It would require less than half of its capacity, as of present-day conditions—which are what we are talking about—to furnish Mexico with the 1,500,000 acre-feet of water in accordance with her seasonal requirements, and it would have required that part of the capacity in only the 2 years from 1902 to date. In other years the required capacity of Davis would be nominal if Boulder Dam were entirely eliminated from the river.

Senator JOHNSON of California. You are going to demonstrate that it could be eliminated without loss to any person?

Mr. TIPTON. Oh, no. I say it could be eliminated, so far as compliance with the terms of this treaty is concerned, under present-day conditions.

Senator JOHNSON of California. Oh. There is quite a little difference there, is there not?

Mr. TIPTON. Well, Mexico is using water at the present time. That is what we are dealing with—present-day conditions.

Senator JOHNSON of California. What did you say your occupation is?

Mr. TIPTON. I am a consulting engineer, sir.

Senator JOHNSON of California. Are you employed by any particular group?

Mr. TIPTON. Yes, sir. I am appearing at this hearing in the employ of the Six-States Committee, which is composed of representatives of Arizona, Colorado, New Mexico, Texas, Utah, and Wyoming.

Senator JOHNSON of California. You represent all of them?

Mr. TIPTON. Yes, sir; I do.

Senator JOHNSON of California. You are going to eliminate any cause for disagreement by your testimony in regard to this treaty, are you not?

Mr. TIPTON. I am not that optimistic, Senator.

Senator JOHNSON of California. I thought that you were showing yourself to be not optimistic but to be of over average certainty that you could do what nobody else has done; that you could solve all these questions.

Mr. TIPTON. No; I am not that optimistic. I wish I were, sir. I wish I had that ability.

I said yesterday that I am very proud of the fact that I participated in the negotiation of this treaty. I believe it is a good treaty for the nationals of the United States, and I would certainly be remiss in my duty to the persons whom I represent—I would be remiss to myself—unless I presented my views in the most forcible way possible, and I firmly believe what I say.

Senator JOHNSON of California. Why, certainly.

Mr. TIPTON. But I am not so optimistic as to think that I am going to convince everybody here that my views are correct.

Senator JOHNSON of California. We all assume that you believe you are now complying with your employment by whomever it may be.

Mr. TIPTON. No, sir; I am entirely independent. I do not have to accept any employment to espouse a cause in which I do not believe. I must believe in the cause before I accept the employment.

Senator JOHNSON of California. That is the reason why you accepted employment in this case?

Mr. TIPTON. That is correct, sir.

Senator JOHNSON of California. Did you accept it from anybody else besides the Six States Compact?

Mr. TIPTON. The Six States Committee?

Senator JOHNSON of California. What?

Mr. TIPTON. The Six States Committee?

Senator JOHNSON of California. Yes.

Mr. TIPTON. No, sir.

Senator JOHNSON of California. They are the only ones in whose behalf you are appearing?

Mr. TIPTON. That is correct.

Senator JOHNSON of California. No other party of any sort?

Mr. TIPTON. Absolutely none, sir.

Senator JOHNSON of California. Are you familiar with any of the parties who own vast tracts of land in Mexico which would be affected by this treaty?

Mr. TIPTON. I am not, sir. I know nothing at all about the ownership of lands in Mexico.

Senator JOHNSON of California. There was a gentleman's name mentioned here yesterday. I do not know him. Do you know him?

Mr. TIPTON. No, sir. All I know is what I read in the paper this morning. I did not hear the testimony yesterday, sir.

The CHAIRMAN. Phillips was the name of the man.

Senator JOHNSON of California. No; I do not think that is so; I think it was——

Senator WILEY. Jenkins.

Senator JOHNSON of California. Jenkins; yes. Do you know Mr. Jenkins?

Mr. TIPTON. No, sir; I never heard of him. I never heard of him until I saw his name in the paper this morning.

Senator JOHNSON of California. You do not represent him?

Mr. TIPTON. No, sir; I do not. If what the paper this morning said is true, I would refuse to represent him, sir. May I make a statement in that regard at this time?

Senator JOHNSON of California. Of course; make any statement you want to make.

Mr. TIPTON. If Mr. Jenkins does own land there, and if he is of the character as portrayed in the paper this morning, I do not see how in any fashion that would prejudice the rights of Mexico to an equitable share of the waters of the Colorado River. I think that we have scoundrels in Colorado; I think we have scoundrels in California who are farming lands; but the fact that they are farming lands does not prejudice in any way the rights of those lands to receive water.

Senator WILEY. You did not mention Texas.

The CHAIRMAN. We sent them all out West.

Mr. TIPTON. I shall include Texas, sir. I am serious about that. I might use another word than "scoundrel."

The CHAIRMAN. That is all right. I have a private list. So it is all right. [Laughter.]

Mr. TIPTON. A man's personal characteristics have no effect upon his right to use water from a stream, which he may have acquired in an equitable fashion.

Senator JOHNSON of California. Have you ever inquired into their right to any particular use of the water?

Mr. TIPTON. The right of Mr. Jenkins, sir?

Senator JOHNSON of California. Yes.

Mr. TIPTON. No, sir.

Senator JOHNSON of California. Or anybody who represents him?

Mr. TIPTON. No, sir. As I say, I did not even know the name until I saw it in the paper this morning.

Senator JOHNSON of California. You are devoting your gigantic energies to the [laughter]—

I will ask that question over again, seeing how I have struck a responsive chord in the audience. [Laughter.]

You are devoting your gigantic energies toward seeing that Mexico gets her share of the waters?

Mr. TIPTON. No, Senator: I would put it the other way. I am devoting my energies, whatever might be their scope or magnitude, to seeing that the United States does not get itself into a position of having to recognize a right by Mexico, through equity, comity, or any other fashion, to more water than is absolutely necessary; and I think this treaty does it.

Senator JOHNSON of California. Are you receiving any compensation for your representation of these States?

Mr. TIPTON. I hope so, sir.

Senator JOHNSON of California. I hope so, too, because you deserve it.

Mr. TIPTON. I hope the members of the committee are here and will make a note of that.

Senator JOHNSON of California. They will see that I testified to that.

Senator LA FOLLETTE. I do not wish to divert you, but would you explain, even though it may have gone into the record at some other time, the origin, character, and nature of the Six States Committee?

Mr. TIPTON. Yes, sir.

The CHAIRMAN. If the Senator will pardon me, and before you get off this other point, Senator Johnson asked you about this man Jenkins who is said to own some land in Mexico. After all, is not that Mexico's business as to who owns land and who gets water? Does not our obligation under the treaty stop at the boundary, we having no jurisdiction, no authority, and no power beyond the border?

Mr. TIPTON. That is my firm belief, sir, that is my firm position, and that is what I attempted to say.

Senator JOHNSON of California. That is your firm belief, and that is the firm belief of the chairman here. I take it all in good part. But we who are speaking from another angle that the United States shall get what she deserves in this treaty—we are speaking from another source or in another way just exactly what she should have. You do not object to that, do you?

Mr. TIPTON. No, sir; I agree with that; and I think that that is the objective of all of us, sir. It is a fact that there are official representatives of six States that believe that this treaty has accomplished that purpose. California believes it has not, Nevada believes it has not, and certain individuals in the six States believe it has not.

The CHAIRMAN. Go ahead, now, and answer the question of Senator La Follette.

Mr. TIPTON. Yes, sir. The Six States Committee was organized, I believe, in July of last year—1944—to support the treaty. Would you like to have the names of the members?

Senator LAFOLLETTE. I should like to know how it was organized. What is its status? Was it organized as a result of State action?

Mr. TIPTON. In all States, I believe, except Texas. I shall read the names of the committee members and shall indicate their status, so far as each of the States is concerned, if that will answer your question.

Senator LAFOLLETTE. That will answer part of it.

Mr. TIPTON. The organization meeting took place in Santa Fe, as I say, I believe in July 1944. A committee was organized, and Clifford H. Stone was made chairman. He is the director of the Colorado Water Conservation Board, of Colorado. He and one other man officially represents Colorado on the committee.

Charles A. Carson, attorney of the Colorado River Commission of Arizona, is the representative of the Governor of Arizona on the committee.

F. E. Merrill, chief engineer of the Colorado River Water Conservation District, which covers most of western Colorado—the portion of Colorado that is most interested in the uses of the waters of the Colorado River—is the official representative of the Governor of Colorado on this committee.

Fred E. Wilson is attorney for the Interstate Stream Commission of New Mexico. That is a commission which has as one of its functions consideration of all problems of this sort. He is the official representative of New Mexico in that capacity.

A. L. Cramer is president of the Water Conservation Association of the Lower Rio Grande Valley, Tex. That Water Conservation Association covers all of the lands of the lower valley, which involves by far the major portion of the lands that will be affected by the treaty. I do not believe that Mr. Cramer has been appointed as the official representative of the Governor of the State of Texas; I do not know that for sure, sir. He will be here to testify and can indicate his status. But he is president of the water users association that is most directly affected by the treaty.

Senator WILEY. In Texas?

Mr. TIPTON. In Texas; yes.

William R. Wallace, president of the Utah Water Users Association, which association, I understand, is made up of all the water users of the State, is the official representative of the Governor of Utah.

Lawrence E. Bishop is State engineer and interstate stream commissioner of the State of Wyoming. He in his official capacity, of course, handles matters of this sort, due to his official duties as interstate stream commissioner. He is the official representative of the Governor of Wyoming.

I do not know whether that fully answers it.

Senator LAFOLLETTE. How did the committee come to be organized? Who took the initiative? Who first suggested it?

Mr. TIPTON. I do not believe I can answer that question. All these men, with the exception of Mr. Cramer, had either been members of the Committee of Fourteen of the Colorado River Basin States, or they had been advisers; and they had attended the frequent meetings

that were held by that committee over a period of 3 or 4 years when these negotiations were under way with Mexico, when the State Department was conferring with the committee. They had a vital interest in the matter. After the treaty was signed and was presented to the Senate for ratification it was the desire of the States represented by these various men that the treaty be ratified. It required some concerted action.

Senator LA FOLLETTE. I am not questioning their right to organize.

Mr. TIPTON. It is just one of those things that grow.

Senator LA FOLLETTE. Do you know how it secures its funds for this purpose?

Mr. TIPTON. By contributions by each of the States out of State funds, except in the case of the State of Texas, where the funds, I think, come from the Water Conservation Association of the Lower Rio Grande Valley. The funds contributed by each of the other States are from funds appropriated by the legislatures.

Senator LA FOLLETTE. With the exception, then, of Texas, this committee secures its financial resources as a result of official State action by those States?

Mr. TIPTON. That is correct; the appropriations not being made for the specific purpose, of course. I think possibly in at least two of the States there will be appropriations made for the specific purpose. Some of the States have funds that can be drawn upon for matters of this sort; in other words, funds that can be used for interstate stream consideration.

Senator LA FOLLETTE. With the the exception of Texas, the financial resources of the committee are derived from public appropriation by the respective States?

Mr. TIPTON. That is correct, sir; yes. I know of no exception to that.

The CHAIRMAN. So far as Texas is concerned, it is being financed by the people who live in the lower Rio Grande Valley through voluntary contributions.

Mr. TIPTON. They are most vitally affected.

The CHAIRMAN. They are affected and want to save their lands, and so on.

Mr. TIPTON. Yes.

The CHAIRMAN. They get out and raise their own money, so there is no undue influence there that I know of.

Senator WILEY. I should like to get back to this other matter. Suppose the treaty had provided that there should be delivered at the laterals 750,000 acre-feet. That, you believe would have been in fulfillment of what right they had previous to the building of Boulder Dam?

Mr. TIPTON. Not entirely; no, sir. That is not at all true. I do not believe that, sir.

Senator WILEY. What is the fact there?

Mr. TIPTON. I believe that her rights prior to the building of Boulder Dam may have exceeded the actual use that she was making of water. When we are talking about rights, sir, you understand that we are talking about them in a rather broad way. We are talking about the moral rights which she might have acquired by the use of water.

I do not think that in any of our Western States appropriations

of water are in terms of annual delivery; appropriations of water are in terms of second-feet. I think that there was read into the record testimony by Mr. Swing at some earlier hearing that Mexico was using 3,000 second-feet before Boulder. Her agricultural economy was such, being largely the raising of cotton, that those 3,000 second-feet, or whatever the amount was, were required for only a limited time, the amount required in other months being scaled down. She had a perfect right, measured by what would be done in the United States, to change her agricultural economy to plant types of crops which would require more water in the late season and divert under her right, if she were in the United States, 3,000 second-feet of water for a longer period, which would require a greater delivery than 750,000 acre-feet to her laterals. In other words, the right, so far as the water use in the United States is concerned, to direct flow in terms of second-feet, could be expanded under these rights without anyone complaining. Also, droughts do not wipe out the right to use water. That was evidenced from an international standpoint in the upper Rio Grande treaty.

Senator WILEY. What I was trying to get at is this: The name of Mr. Jenkins was brought into this picture. I understood you to say that by the delivery of 1,100,000 feet at the canal there would be provided approximately 750,000 up at the laterals, which was approximately the amount that she had been using previous to Boulder Dam. I think we agreed that there was evidence here that the average was 600,000. But whether it be one or the other does not make any difference. The point I am getting at is this: If we enter into this treaty with this present provision of 1,500,000 acre-feet, and Mr. Jenkins has bought land that is not at present being looked after by the 1,100,000 acre-feet, is he in or out of the cold? In other words, will there be more water so that he can take his arid lands and cultivate them?

Mr. TIPTON. His right will have to be—

Senator WILEY. I am not talking about right; I am talking about fact.

Mr. TIPTON. I do not know what the facts are, sir.

Senator WILEY. I think the evidence here is that he bought land for 75 cents an acre. Certainly that cannot be land that is already having the benefit of water.

Mr. TIPTON. I do not know, sir.

Senator WILEY. Let us assume that it is not. Under this treaty will there be additional water granted, so that he can take his hundreds of thousands and have that land taken care of?

Mr. TIPTON. I cannot see it, sir. In the absence of a treaty, that might be true. He might ripen the use of water into what ultimately—

Senator WILEY. I am talking about quantity, not quality.

Mr. TIPTON. That is what I am talking about, quantity.

Senator WILEY. In other words, some of us are trying to get at a fact: How much water Mexico has been using, so that we can see that she gets the amount that is equitable. Here is a man who goes out and buys hundreds of thousands of dollars worth of arid land, apparently under the mistaken—or correct—assumption that this treaty goes through, he is going to have water in the bag for that purpose. Now, you, as an engineer, can tell me.

Mr. TIPTON. All right. May I answer your question? I may have to go a little beyond engineering to do it.

We will assume—we will take your assumption—that Mr. Jenkins, or whatever the name is——

The CHAIRMAN. Let me ask you a question right there. What difference does it make whether the land in Mexico is owned by Mr. Jenkins, Mr. Johnson, or Mr. Smith?

Mr. TIPTON. I do not think it makes any difference.

The CHAIRMAN. Of Mr. Xenophon or Mr. Xerxes?

Mr. TIPTON. I think the Senator has a very important point.

Senator WILEY. He admits I have a good point, Mr. Chairman. Let him answer it.

The CHAIRMAN. I will let him answer. But whether the name is Jenkins or something else is balderdash. I am just trying to clarify that.

Senator WILEY. Call him Jones.

Mr. TIPTON. Let us assume it is Mr. John Doe.

Senator WILEY. John Doe is good. So is Richard Roe.

Mr. TIPTON. Let us assume that he has purchased—what was the number of acres? It was substantial?

Senator WILEY. Seven hundred thousand.

Senator DOWNEY. Five hundred thousand.

Mr. TIPTON. Let us assume that Mr. John Doe has purchased 500,000 acres of arid land in Mexico. It must be arid, or else he could not have acquired it at a low price.

Senator WILEY. Seventy-five cents an acre.

Mr. TIPTON. That is right. At the present time there are being irrigated in Mexico 300,000 acres. These 500,000 acres are in addition to the 300,000.

Senator WILEY. That is right.

Mr. TIPTON. Mexico is using, to irrigate those 300,000 acres, 1,800,000 acre-feet of water.

Now, under this treaty there is a very definite limitation of Mexico to acquire any right beyond 1,500,000 acre-feet. Mr. John Doe's land can acquire no permanent right to use water unless it is taken off of other lands.

What is the situation, sir? If we do not have the treaty, and Mr. John Doe has 500,000 acres of arid land down there, thirsty land, with several million acre-feet of water going by it, and there are already 300,000 acres irrigated, he immediately begins to put to beneficial use sufficient water to irrigate his 500,000 acres of land, which would require, say, 3,000,000 acre-feet under the present duty, and the present area is requiring 1,800,000 acre-feet, which would make a total of 4,800,000 acre-feet of water used in Mexico, and there is more than that in the river at the present time available for use by Mexico.

What would the situation be if we did not at this time make a settlement and crystallize the right of Mexico to use water at a definite figure?

Senator WILEY. You are asking me a question. I could answer it, but I am not in the chair for that purpose. I think you have answered my question to this effect, that, in your opinion, you believe that if there was assigned to Mexico the amount of water provided in this treaty, and guaranteed to her, there would not be sufficient water to look after Mr. Jenkins' land?

Mr. TIPTON. That is correct, sir, on a permanent basis.

Senator WILEY. That is your answer?

Mr. TIPTON. That is my answer if his land is arid. The treaty does not guarantee sufficient water to take care of land that is at present irrigated in Mexico.

Senator DOWNEY. Mr. Tipton, do I understand that you state that it is your opinion of the irrigation laws and rules in the Western States, that if the water users in Lower California—we will assume merely a hypothetical case—had been using 1,500 second-feet a day, which would be 3,000 acre-feet a day, over an average irrigation season of approximately 100 days, or a total usage of 600,000 acre-feet, you would then contend that that use may be properly expanded against prior rights to that total use of 1,500 second-feet for a whole year's time or 6 months' time, or beyond the average time it had been used? Is that your contention?

Mr. TIPTON. That is what happens in the other States, but it would be circumscribed by the other laws of the river—the Colorado River compact and the self-limiting statute of California.

Senator DOWNEY. I think that that was a fair question. Generally speaking, is that the principle of law you are contending for?

Mr. TIPTON. That is the principle of law in Colorado, sir.

Senator DOWNEY. Can you give us a single judicial authority supporting the rule the way you have stated it, whether from Colorado or anywhere else?

Mr. TIPTON. It does not require an expression of the court. The code itself is plain. A water right—a direct-flow water right—is in terms of cubic feet per second, and the only limitation of a man's use of water is that it must be used beneficially. That goes back to the Constitution of Colorado itself, and several of the other Western States have patterned their constitutions after Colorado's with respect to the use of water. So there is no limitation on acre-feet; the only limitation is that the total quantity of water that might be used must be used beneficially.

Senator DOWNEY. All right. Mr. Tipton, it is your statement that in Colorado if a water user on the Big Laramie River had been using 100 second-feet of water over the irrigation season, or over 3 or 4 months, and he then desired to divert that 100 second-feet and to use that over the entire year, even though there were existing appropriations in Wyoming that were already using it or had appropriated it, the Colorado user would have the right to do it?

Mr. TIPTON. Certainly, sir.

Senator DOWNEY. You are familiar with the *Wyoming-Colorado case*, are you?

Mr. TIPTON. I am, sir.

Senator DOWNEY. Decided in the Supreme Court?

Mr. TIPTON. I am.

Senator DOWNEY. Did not the water users endeavor to divert that water of the Poudre tunnel, claiming they could enlarge their irrigation use so that they could have the water for the whole year?

Mr. TIPTON. No.

Senator DOWNEY. You do not think that the Supreme Court of the United States restricted them to the 28,000 acre-feet they actually had been using, and held in favor of Wyoming? You do not think that is the *Wyoming-Colorado case*?

Mr. TIPTON. No; 39,750.

Senator DOWNEY. Very well; I thought it was 28,000.

Mr. TIPTON. No, it was 39,750.

Senator DOWNEY. You do not know that the Supreme Court refused to allow them to expand it beyond anything they were using?

Mr. TIPTON. There was no effort to use it.

Senator DOWNEY. They wanted to divert the whole river in dispute?

Mr. TIPTON. That was not the issue, sir; the issue was what the term "use" meant—whether it meant to divert at that time or consumptive use. I could go into an analysis of that case at some length.

Senator DOWNEY. I will have it here on Monday to read to the committee.

Mr. TIPTON. But I may say this, sir; that irrigation in Colorado, which goes back to the fifties, we will say, was for the purpose largely at that time of raising feed crops. Feed crops for stock that were used in the mining camps. That required a rather limited diversion of water, so far as length of season was concerned. Time went on; the economy changed. Late season crops began to come into the picture. The raising of crops for cash purposes commenced. Beets became a big factor in northern Colorado. Potatoes became a big factor. That required an extension of the period of use of water under the decrees. Hundreds of ditches made expansions, and the issue has never been raised in Colorado as to whether or not that could be permitted. It is inherent in our Constitution and in our code that that can be done. There cannot be an expansion made by virtue of a change in the point of diversion of a ditch, but there can be an expansion made in terms of length of period that the water is being used.

Senator DOWNEY. Mr. Chairman, if I may interrupt, I should like to ask another question.

Is it not true, Mr. Tipton, that the Supreme Court of the United States expressly said that the case was not based upon the fact that it was diversion of the Big Laramie to another watershed; that that was the customary practice in both Wyoming and Colorado, and that the decision was not based upon that?

Mr. TIPTON. That is correct, sir.

Senator DOWNEY. And the Supreme Court gave to Colorado, I thought, 28,000, but maybe 37,000—it was some small amount based upon the amount she had been using—refusing to allow her to expand her rights against prior appropriations in Wyoming to the extent of about 250,000 acre-feet?

Mr. TIPTON. No. You are wrong, sir.

Senator DOWNEY. All right. Let me ask this question—

Mr. TIPTON. You are correct in a way—may I clarify that?—you are correct in one statement, that the Supreme Court did recognize Colorado's right to use a certain amount of water on account of prior use. The Supreme Court did determine the amount of water required to take care of Wyoming's uses. The Supreme Court recognized that Wyoming had possibilities of storing water and supplying those so-called prior uses. She found that after that was all done, there remained 15,500 acre-feet, which she awarded to the Laramie tunnel, which was the issue—and I want to point out one thing very strongly, that to all intents and purposes the Supreme Court awarded that

tunnel, which was the most junior use of the stream, a right which is senior to every use in the State of Wyoming.

Senator DOWNEY. Mr. Tipton, was not that based upon the finding of the Court that there was that much water available after the satisfaction of all prior appropriations in Wyoming and Colorado?

Mr. TIPTON. Yes, sir.

Senator DOWNEY. I will also even ask you this: Is it not true that the Supreme Court of the United States compelled your Colorado water users to allow the water to go down to satisfy the existing reservoir storage in Wyoming antedating the proposed diversion?

Mr. TIPTON. No; that was never an issue. The other issue was a determination of what the Court meant when it recognized the use by Colorado of 4,250 acre-feet for meadowlands in the Laramie Basin. The testimony in the original case was to the effect that those meadowlands consumed 4,250 acre-feet. The Court decree was somewhat indefinite as to the 4,250 acre-feet. In a subsequent case the Court said: "We meant diversion and not consumptive use." So the effect was to limit those lands to a diversion of 4,250 acre-feet; and then finally, in another clarification, they said that the decree was a mass allocation to Colorado, and the administration of it would have to be in accordance with Colorado laws.

Just one point, Senator—

Senator DOWNEY. I just want to say, as far as that case is concerned—

The CHAIRMAN. Let him answer.

Mr. TIPTON. Just one point about the 15,500 acre-feet that were awarded to the Laramie-Poudre tunnel, which was the most junior user of that stream.

I want to make it plain, Senator Downey, that after every appropriator on the entire stream, both in Colorado and Wyoming, was satisfied, there were 15,500 acre-feet left, and that tunnel can divert that water, if it is available to her, in a period of drought or any other period, regardless of whether prior appropriators in Wyoming are satisfied. That is a guaranteed quantity of 15,500 acre-feet to that tunnel, if the water is there, against anybody in Wyoming, regardless of what his priority is, even though that tunnel is the most junior user in point of time.

Senator DOWNEY. The Supreme Court said that was allowed because all the other prior rights in average years could be taken care of. I will have the case here on Monday morning and will read the important parts to the committee, and they can decide.

Outside of the *Wyoming case* that I have cited to you, do you know of one single case in the Supreme Court of the United States, or in any appellate tribunal—any western case—upholding this expansion of right that we have been talking about?

Mr. TIPTON. I may just say that the point has never been raised in Colorado, because it is inherent in our constitution and code that that can be done.

Senator DOWNEY. I may say that I think there are several hundred cases in the Western States, Mr. Tipton. I expect to have some of them here. I think there are also cases in New England.

Mr. TIPTON. I think it is a minor point.

The CHAIRMAN. Go ahead, Mr. Tipton.

Mr. Tipton. The second item I had for discussion was the effect of the terms of the treaty on the present and potential use of the water in the United States, both on the Rio Grande and on the Colorado. I shall make a very brief statement in connection with the lower Rio Grande. That is not particularly a controversial subject at the moment before this committee, but it appears necessary to make a very brief statement in that connection.

There are produced in the lower Rio Grande, below Fort Quitman, from the United States and Mexico about 6,800,000 acre-feet. That is virgin flow. The present flow that is running out of the lower Rio Grande into the Gulf of Mexico is in the neighborhood of 4,000,000 acre-feet. That flow varies between very wide limits, both on an annual basis and on a seasonal basis.

I call your attention to the exhibit of the Committee of Six which appears on the easel, which is numbered SSC-9. A copy appears on page 75 of my memorandum which is before you. That exhibit indicates graphically the daily flow of the lower Rio Grande at Rio Grande City, which is above the large area of irrigated lands in the lower valley in Texas. The scale—vertical scale—is in terms of thousands of second-feet. The top of the graph would represent a flow of 170,000 second-feet. The graph, or hydrograph, covers the years from 1932 to 1942, inclusive.

Senator Pepper. What is the relation of second-feet to acre-feet?

Mr. Tipton. A second-foot is the rate of flow.

Senator Pepper. But in volume?

Mr. Tipton. One second-foot flowing for 24 hours equals 2 acre-feet; or 1 second-foot flowing for 1 year would equal approximately 730 acre-feet.

That graph indicates the very erratic character of the flow of the stream. While there are flowing out of the basin 4,000,000 acre-feet of water, and there are at the head of the irrigated area some 5,000,000 acre-feet, only 20 percent or less of that water can be considered firm. Almost every year the river goes practically dry above the heads of the diversions in the United States. Threatened shortages have been such that from time to time plans have been made even to bring water to the area by tank cars to take care of domestic and municipal purposes. Usually following the drought floods occur. On the hydrograph you may note those floods occasioned by rain on the watershed. Those floods are frequent, and they are large.

The matters I am presenting at the moment to the committee will be important when we consider Colorado River matters, and I want to stress some of these matters.

One matter I want to stress is that flood flows through that valley have equaled 150,000 second-feet and more, and floods of from 50,000 to 60,000 second-feet are very frequent.

In the period of low run-off, which has often been mentioned here as one of the lowest of history—1931 to 1940, inclusive—you will note that flood flows in the lower Rio Grande have amounted to 150,000 second-feet, with flood flows frequently of 60,000 second-feet. Despite the fact that those flood flows occur, there are operated various pumps on the lower Rio Grande to furnish water to the lands of the United States. Those pumps divert from 700,000 to 1,000,000 acre-feet for use on lands in the lower Rio Grande in Texas. The big need of the

lower Rio Grande is the control of these water supplies by the construction of reservoirs. The provisions of the treaty are such that those reservoirs can be constructed and these erratic flood flows regulated and made available for beneficial use by both countries.

Briefly, then, the effect of the treaty on the United States will be to protect the present irrigated area in the lower valley, some 400,000 acres. It will have the effect of permitting a substantial expansion, not quite a 100-percent expansion. It will permit Mexico to make possible an 800- or 900-percent expansion. The amount of water that will be available to the United States above the lowest proposed international reservoir will be about 2,000,000 acre-feet. Some of that will be lost by evaporation and some by spills; but there will be enough regulated water to do what I said would be done.

The reservoirs also will provide a very large measure of flood control, practically all that will be required in the lower valley. The reservoirs will also provide considerable silt control. The reservoirs will provide some protection against the poor quality of water that at present is experienced during low-water periods. The fresher water during floods will be captured in the reservoirs and mixed with waters that come down during the low-water period, and the average quality of the water that is received by the lands will be better than it is now under low-flow conditions.

Project No. 5 is described in my memorandum, and I shall not go into it in detail before this committee. I shall, however, say this: The treaty will afford to the lower valley all the benefits that would have been derived by so-called Federal project No. 5. This project has already been authorized by Congress for construction and an appropriation of some funds were made to start construction, but construction has not been started pending the results of the consideration of the treaty by the United States and Mexico Senates.

The terms of the treaty, if they go into effect, will provide somewhat greater benefits to the United States than would project No. 5, in that they will provide a greater measure of flood control, salinity control, and silt control and will permit the irrigation of a somewhat greater acreage of land.

That completes my statement as to the effect on the waters of the Rio Grande.

Senator PEPPER. What is the number of acre-feet that Mexico is now receiving from the main channel of the Rio Grande, sir? Anyway, from the Rio Grande? You gave awhile ago a figure which I did not quite get.

Mr. TIPTON. I said that the virgin flow—that is the flow before any consumption was made—was estimated at 6,800,000 acre-feet. Mexico produces about 70 percent of that virgin flow. At the present time there are flowing out of the basin, unused, about 4,000,000 acre-feet. In other words, there is a consumption in both countries at the present time of about 2,800,000 acre-feet.

I could supply for the record about what amount I think is being consumed by Mexico at the present time on her tributaries and from the main stream, and what percent by the United States. I cannot give it from memory. If you desire it, I will get it. Would the Senator desire it for the record?

Senator PEPPER. That is all right.

Senator WILEY. What is the population of the area in Texas that would be affected beneficially by this improvement, approximately?

Senator JOHNSON of California. Texas, did you ask about?

Senator WILEY. Yes.

Mr. TIPTON. I think that in the lower valley it is of the order of 200,000 people. That can be corrected, sir, if my statement is incorrect. I think it is of that order.

Senator WILEY. I presume you take the position that the treaty, if it becomes a treaty, does not in any way prejudice the rights of the 3,500,000 people in California in the area that has been testified to?

Mr. TIPTON. No. I think if the 3,000,000-odd people in California are affected adversely by this treaty, they would be more adversely affected if the situation were allowed to drift or if there were arbitration of the problem.

Senator WILEY. You expect to establish that?

Mr. TIPTON. I am going to attempt to establish it.

Senator WILEY. That is what I mean. I am not speaking facetiously. I want to see the relative importance of both.

Mr. TIPTON. That is correct.

Senator WILEY. It has been contended on one side that we are taking from one area here that valuable water right and that the result is a benefit to a group in Mexico.

Now, as to the Rio Grande I have not heard any opposition, because I understand that there it is mutually beneficial to both countries and that is conceded to be the fact.

Mr. TIPTON. I think that is correct.

Senator WILEY. You are taking the position that unless this treaty becomes the law of the land the folks in Los Angeles, San Diego, and other places will be injured by its not becoming the law of the land? That is the position you are taking?

Mr. TIPTON. They would take a chance on being more adversely affected than this treaty affects them, if this treaty does adversely affect them, which I do not concede.

Now I shall go to the effect of the treaty provisions on the uses of Colorado River water in the United States, but in order that we may know what follows—Senator Wiley was not here yesterday—I wish to explain, Senator, that after I discuss this I shall then discuss in some detail the California situation, so that in this general statement as to the effect there will be no mention of the California situation, but I intend to follow this with a detailed discussion of the California situation.

At the time the Colorado River compact was negotiated the commissioners of the seven States visualized the possibility of the negotiation of a treaty with Mexico which would allocate waters of the Colorado River for her use. Specific provisions were made in the compact for the use of certain waters for that purpose. The allocation section of the compact, so called, is this—certain portions of it have been read into the record, Mr. Chairman, but the entire document has not been read into the record. There are two or three provisions of it that should be considered with the balance of them, and with the permission of the chairman I would like to read it into the record so that all the provisions will appear at this point.

Senator PEPPER (presiding). Just for the purposes of the record we can insert it, but if you would like the Senators to hear it, you may read it.

Mr. TIPTON. I will only cite those that have already been read in, and then I will read the others.

Senator PEPPER. Very well.

Mr. TIPTON. I wish to say that it has been mentioned here that Mr. Carpenter, of Colorado, was the author of the Colorado River compact. He did have much to do with the framing of it.

Senator JOHNSON of California. You say he did not have much to do with it?

Mr. TIPTON. He did, sir; and when I discuss the provisions of the 1906 treaty I shall bring out plainly the situation that Colorado found itself in by having an international problem settled before an interstate problem was settled. Mr. Carpenter had that fully in mind when the Colorado River compact was negotiated, so that there the international situation was visualized and was taken care of insofar as the States could take care of it by the compact. In other words, we had the compact before any treaty was negotiated, and the States agreed to the class of water that would be delivered to Mexico in the event of a treaty.

Now I will refer to article III of the Colorado River compact——

Senator WILEY. May I interrupt, Mr. Chairman?

Senator PEPPER. Yes.

Senator WILEY. From the last statement you made here I infer that there was an understanding that a treaty would be entered into with Mexico that might be detrimental to any of the compact parties?

Mr. TIPTON. No, sir. There was no understanding whatsoever. There was a realization that at some time a treaty would be negotiated with Mexico on the Colorado River.

Senator WILEY. You have answered the question; but the idea was not that any treaty should be entered into or might be entered into would operate detrimentally to the rights of any of the compact parties?

Mr. TIPTON. Oh, no; absolutely not. The point was that the Colorado had found itself in a difficult position on the upper Rio Grande due to international complications. I will touch on that later. That was recognized when this compact was negotiated. There was properly set up in the compact a certain class of water to satisfy the terms of any treaty that might be negotiated. I mean, it was foresightedness on the part of the negotiators to recognize the contingency of an international agreement on the Colorado River, and it was foresightedness on the part of the negotiators to say to one another that the Mexican burden was to come out of a certain class of water. But there was no understanding by anyone and there was no suggestion that any State would be treated unfairly at the time the treaty was negotiated.

Senator WILEY. Can we understand also that there is no international law on the subject that would in any way bind this Government to an allotment of any definite amount of the water of the Colorado to Mexico?

Mr. TIPTON. You are completely out of my field, sir.

Senator WILEY. I thought you were going into that, the way you spoke.

Mr. TIPTON. No, sir; that will be gone into by other witnesses for the Committee of Six.

Senator WILEY. But you have a general understanding that whatever right is accorded to Mexico it is on an equitable basis, or on comity, as we say?

Mr. TIPTON. That is my understanding, sir. My understanding is from my attorneys, that probably international law does not cover the subject except insofar as precedent might be more or less of a basis for international law. That is clear beyond my field.

Senator WILEY. You are very modest, sir.

Mr. TIPTON. You will have to talk to the attorneys about that.

Senator JOHNSON of California. How long will it take you to read the provisions of the compact?

Mr. TIPTON. About 5 minutes, sir. I will not read (a), (b), and (c), because the committee is fully conversant with those. I will read (d), (e), (f), and (g). I will read (d) because a question has been raised about it by one of the witnesses:

(d) The States of the upper division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of 10 consecutive years reckoned in continuing progressive series beginning with the 1st day of October next succeeding the ratification of this compact.

(e) The States of the upper division shall not withhold water, and the States of the lower division shall not require the delivery of water which cannot reasonably be applied to domestic and agricultural uses.

(f) Further equitable apportionment of the beneficial uses of the waters of the Colorado River system unappropriated by paragraphs (a), (b), and (c) may be made in the manner provided in paragraph (g) at any time after October 1, 1963, if and when either basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b).

I want to stress the word "unapportioned" occurring in that paragraph.

(g) In the event of a desire for a further apportionment, as provided in paragraph (f), any two signatory States, acting through their Governors, may give joint notice of such desire to the Governors of the other signatory States, and to the President of the United States of America, and it shall be the duty of the Governors of the signatory States and of the President of the United States of America forthwith to appoint representatives, whose duty it shall be to divide and apportion equitably between the upper basin and lower basin the beneficial use of the unapportioned waters of the Colorado River system, as mentioned in paragraph (f), subject to the legislative ratification of the signatory States and the Congress of the United States of America.

That is the end of the quotation from the allocation article of the compact.

Senator JOHNSON of California. I will relieve you for a short time by reading the President's dedicatory address with reference to Boulder Dam, and I think we can all listen to it with profit to ourselves.

You look rather doubtful?

Mr. TIPTON. No, sir. I agree with, sir. I would welcome the relief, and I am sure I will be inspired.

Senator JOHNSON of California. I am going to read President Roosevelt's dedication of Boulder Dam, September 30, 1935 [reading]:

*PRESIDENT ROOSEVELT'S DEDICATORY ADDRESS AT BOULDER DAM, SEPTEMBER 30, 1935

(From the Reclamation Era, published by the Department of the Interior, October 1935 issue)

Senator Pittman, Secretary Ickes, Governors of the Colorado River States and you especially who have built Boulder Dam, this morning I came, I saw, and I was conquered, as everyone would be who sees for the first time this great feat of mankind.

Ten years ago the place where we are gathered was an unpeopled, forbidding desert. In the bottom of a gloomy canyon, whose precipitous walls rose to a height of more than 1,000 feet, flowed a turbulent, dangerous river. The mountains on either side of the canyon were difficult of access, with neither road nor trail, and their rocks were protected by neither trees nor grass from the blazing heat of the sun. The site of Boulder City was a cactus-covered waste. The transformation wrought here is a twentieth-century marvel.

We are here to celebrate the completion of the greatest dam in the world, rising 726 feet above the bedrock of the river and altering the geography of a whole region; to see the creation of the largest artificial lake in the world, 115 miles long, holding enough water to cover the State of Connecticut to a depth of 10 feet, and to see nearing completion a powerhouse which will contain the largest generators and turbines yet installed in this country, machinery which can continuously supply 1,835,000 horsepower of electric energy. All these dimensions are superlative.

They represent and embody the accumulated engineering knowledge and experience of centuries, and when we behold them it is fitting that we pay tribute to the genius of their designers. We recognize also the energy, resourcefulness, and zeal of the builders, who, under the greatest physical obstacles, have pushed this work forward to completion 2 years in advance of the contract requirements. But especially we express our gratitude to the thousands of workers who gave brain and brawn to the work of construction.

SOUTHWEST DIRECTLY BENEFITED.

Beautiful and great as this structure is, it must also be considered in its relationship to the agricultural and industrial development and in its contribution to the health and comfort of the people who live in the Southwest.

To divert and distribute the waters of an arid region, so that there shall be security of rights and efficiency in service, is one of the greatest problems of law and of administration to be found in any government. The farms, the cities, and the people who live along the many thousands of miles of this river and its tributaries all depend for their permanence in value upon the conservation, the regulation, and the equitable division of its ever-changing water supply.

What has been accomplished on the Colorado in working out such a scheme of distribution is inspiring. Through the cooperation of the States whose people depend upon this river, and of the Federal Government which is concerned in the general welfare, there is being constructed a system of distributive works of laws and practices, which will insure to the millions of people who now dwell in this basin and the millions of others who will come to dwell here in future generations, a just, safe, and permanent system of water rights. In devising these policies and the means of putting them into practice the Bureau of Reclamation has taken, and is destined to take in the future, a leading and helpful part. The Bureau has been the instrument which gave effect to the legislation introduced in Congress by Senator Hiram Johnson and Congressman Phil Swing.

UNREGULATED RIVER DISASTROUS

As an unregulated river, the Colorado added little to the region this dam serves. When in flood the river was a threatening torrent. In the dry months of the year it shrank to a trickling stream. For a generation the people of Imperial Valley had lived in the shadow of disaster from the river which provided their livelihood, and which is the foundation of their hopes for themselves and their children. Every spring they waited with dread the coming of a flood,

and nearly every autumn they feared a shortage of water would destroy their crops.

The gates of the diversion tunnels were closed here at Boulder Dam last February. In June a great flood came down the river. It came roaring down the canyons of the Colorado, through Grand Canyon, Iceberg, and Boulder Canyons, but it was caught and safely held behind Boulder Dam.

Last year a drought of unprecedented severity was visited upon the West. The watershed of the Colorado River did not escape. In July the canals of the Imperial Valley went dry. Crop losses in that valley alone totaled \$10,000,000. Had Boulder Dam been completed 1 year earlier, this loss would have been prevented, because the spring flood could have been stored to furnish a steady water supply for the long dry summer and fall.

Across the San Jacinto Mountains southwest of Boulder Dam the cities of southern California are constructing an aqueduct to cost \$200,000,000, which they have raised, for the purposes of carrying the regulated waters of the Colorado to the Pacific coast, 250 miles away.

NAVIGATION AND RECREATION

Across the desert and mountains to the west and south run great electric transmission lines by which factory motors, street and household lights, and irrigation pumps will be operated in southern Arizona and California. Part of this power will be used in pumping the water through the aqueduct to supplement the domestic supplies of Los Angeles and surrounding cities.

Navigation of the river from Boulder Dam to the Grand Canyon has been made possible, a 115-mile stretch that has been traversed less than half a dozen times in history. An immense new park has been created for the enjoyment of all our people.

COST WILL BE REPAYED

At what cost was this done? Boulder Dam and the power houses together cost a total of \$108,000,000, all of which will be repaid with interest in 50 years under the contracts for sale of the power. Under these contracts, already completed, not only will the cost be repaid, but the way is opened for the provision of needed light and power to the consumer at reduced rates. In the expenditure of the price of Boulder Dam during the depression years, work was provided for 4,000 men, most of them heads of families, and many thousands more were enabled to earn a livelihood through manufacture of materials and machinery.

And this is true in regard to the thousands of projects undertaken by the Federal Government, by the States, and by the municipalities in recent years. The overwhelming majority of them are of definite and permanent usefulness.

Throughout our national history we have had a great program of public improvements, and in these past 2 years all that we have done has been to accelerate that program. We know, too, that the reason for this speeding up was the need of giving relief to several million men and women whose earning capacity had been destroyed by the complexities and lack of thought of the economic system of the past generation.

PROJECTS BENEFIT UNEMPLOYED AND ADD TO NATION'S WEALTH

No sensible person is foolish enough to draw hard-and-fast classifications as to usefulness or need. Obviously, for instance, this great Boulder Dam warrants universal approval because it will prevent floods and flood damage, because it will irrigate thousands of acres of tillable land, and because it will generate electricity to turn the wheels of many factories and illuminate countless homes.

But can we say that a 5-foot brushwood dam across the headwaters of an arroyo, and costing only a millionth part of Boulder Dam, is an undesirable project or a waste of money? Can we say that the great brick high school, costing \$2,000,000, is a useful expenditure, but that a little wooden schoolhouse project, costing \$10,000, is a wasteful extravagance? Is it fair to approve a huge city boulevard and, at the same time, to disapprove the improvement of a muddy farm-to-market road?

While we do all of this, we give actual work to the unemployed and at the same time we add to the wealth and assets of the Nation. These efforts meet with the approval of the people of the Nation.

In a little over 2 years this work has accomplished much. We have helped mankind by the works themselves and, at the same time, we have created the necessary purchasing power to throw in the clutch to start the wheels of what we call private industry. Such expenditures on all of these works, great and small, flow out to many beneficiaries. They revive other and more remote, industries and businesses, money is put in circulation, credit is expanded, and the financial and industrial mechanism of America is stimulated to more and more activity.

Labor makes wealth. The use of materials makes wealth. To employ workers and materials when private employment has failed is to translate into great national possessions the energy that otherwise would be wasted. Boulder Dam is a splendid symbol. The mighty waters of the Colorado were running unused to the sea. Today we translate them into a great national possession.

USE BEGETS USE

I might go further and suggest to you that use begets use. Such works as this serve as a means of making useful other national possessions. Vast deposits of precious metals are scattered within a short distance of where we stand today. They await the development of cheap power.

These great Government power projects will affect not only the development of agriculture and industry and mining in this section they serve, but they will also prove useful yardsticks to measure the cost of power throughout the United States. It is my belief that the Government should proceed to lay down the first yardsticks from this great power plant in the form of a State power line, assisted in its financing by the Government, and tapping the wonderful natural resources of southern Nevada. Doubtless the same policy of financial assistance to State authorities can be followed in the development of Nevada's sister State, Arizona, on the other side of the river.

With it all, with work proceeding in every one of the more than 3,000 counties in the United States and of a vastly greater number of local divisions of Government, the actual credit of Government agencies is on a stronger and safer basis than at any time in the past 6 years. Many States have actually improved their financial position in the past 2 years. Municipal tax receipts are being paid when the taxes fall due and tax arrearages are steadily declining.

NATIONAL PRIDE IN BOULDER DAM

It is a simple fact that Government spending is already beginning to show definite signs of its effect on consumer spending; that the putting of people to work by the Government has put other people to work through private employment, and that in 2½ years we have come to the point where private industry must bear the principal responsibility of keeping the processes of greater employment moving forward with accelerated speed.

The people of the United States are proud of Boulder Dam. With the exception of the few who are narrow visioned, the people on the Atlantic seaboard, the people in the Middle West, and the people in the South must surely recognize that the national benefits which will be derived from the completion of this project will make themselves felt in every State. They know that poverty or distress in a community 2,000 miles away may affect them, and that prosperity and higher standards of living across a whole continent will help them back home.

Today marks the official completion and dedication of Boulder Dam, the first of four great Government regional units. This is an engineering victory of the first order—another great achievement of American resourcefulness, skill, and determination.

That is why I have the right once more to congratulate you who have created Boulder Dam and on behalf of the Nation to say to you, "Well done."

Senator PEPPER. (presiding). Thank you, Senator.

Senator JOHNSON of California. I read this to you because it is the work of our President. He describes it in a manner peculiar to himself but which none of us can equal, and he tells us that there has been built in this poor little place that was unfit for habitation before, a great work, solemn in character, and it makes us feel that after all we can do things in this world.

I want to add just one thing to that. Eight years of my life and 8 years of the life of my friend and colleague, Mr. Swing, were taken up with this one project. It took us 8 years. Two years were spent in a horrible, miserable contest in which we suffered set-backs and two singular things that we are peculiarly subject to in the United States Senate. But those were overcome. We fought through two of the bitterest fights that were ever had in the Senate. I hate to see this Boulder Dam, that took 8 years of my life and 8 years of Swing's life before we could accomplish things, destroyed. We accomplished them simply by just taking hold like bulldogs and hanging on and hanging on, fighting it out, and we fought it out until we won. And now officers of this Government say to us, "You must take what we have given you"—officers of a branch of the Government who will work upon some theory, altruistic it may be, and they are through.

We knew what it was. To use the language of one of the great men of the day, who said he was going to fight, if it were necessary, every place, in every way, and under every circumstance, we fought it out. And this is the result.

I am in no shape to be here today. I am in no shape to have been here all of this time that I have been giving to this matter. I feel that it is wrong, it is wrong—it is wrong that you should take a part of something that belongs to you and belongs to me and belongs to all of the people and say to them that they shall not have their own. We fought it at the time, and we can fight it as best we may.

So I make my small plea in this matter. It does not amount to anything, but I cannot refrain from saying a word or two, as I have said to you gentlemen who constitute here the arbiters of our fight and you will have to determine that you are going to fight one way or the other. I cannot believe it, gentlemen; I cannot believe it, I will not believe it until the last word is written and the last word is said, that we may continue with this Boulder Dam.

Senator PEPPER. Thank you, Senator.

You may proceed, Mr. Tipton.

Mr. TIPTON. I want to pay a tribute to Senator Johnson for the 8 years that he worked on this. I consider Boulder Dam to be a wonderful project. I had the privilege of having a small part in the original engineering on the water supply. I regret, as Senator Wiley said the other day, that the name was changed, and I hope that this Congress at some time will see fit to change the name to Johnson Dam.

I had just finished reading the last subparagraph of the allocation portion of the Colorado River compact.

(The chairman entered the hearing room.)

The CHAIRMAN. Is Senator McCarran here? [No response.] He requested that the State engineer be heard. Do you have to go tonight?

Mr. SMITH. No, sir. I can appear tomorrow morning, Mr. Chairman.

The CHAIRMAN. We are trying to accommodate you. Are you going to be here, anyway, in the morning?

Mr. SMITH. Yes; but I was to be occupied on some other matters before leaving tomorrow night.

The CHAIRMAN. You will have to get a priority on one or the other. We will hear you in the morning if that will be satisfactory.

Mr. SMITH. That will be all right.

The CHAIRMAN. If you can finish in a half hour—

Mr. SMITH. I can finish if I have a half hour.

The CHAIRMAN. Will it suit you, Mr. Tipton, to allow him to intervene now?

Mr. TIPTON. That is perfectly agreeable, Senator.

STATEMENT OF ALFRED MERRITT SMITH, STATE ENGINEER OF NEVADA

The CHAIRMAN. State for the record your name and whom you represent.

Mr. SMITH. My name is Alfred Merritt Smith. I am the State engineer of Nevada and the secretary of the Colorado River Commission of Nevada. I thank you for the privilege of appearing before you, out of order in this way.

Our Governor, Hon. E. P. Carville, has requested me to come here and express our objections to this proposed treaty. I also appear as a representative of the Colorado River water users conference, which was called by Governor Carville and held at Las Vegas, Nev. on January 12 and 13, 1945. Delegates representing six States of the Colorado River Basin traveled to that meeting and actually participated in its proceeding. I had the honor to be elected chairman of a working committee to set up a permanent organization, and was directed to take any measure thought necessary to defeat the Mexican treaty, as submitted by the State Department.

Senator WILEY. This was another six-State committee?

Mr. SMITH. No; this was a water-users' conference. It has been referred to before. A representative of that conference has already appeared.

The CHAIRMAN. It was a State meeting?

Mr. SMITH. It was called by the Governor of Nevada, composed of water users of the Colorado River system, the upper basin.

Senator McFARLAND. That is the meeting at which a resolution was adopted which was introduced in the early part of the hearings by Senator McCartan.

Senator MILLIKIN. Can you tell us whether the Governors of all the States of the Colorado River Basin were invited?

Mr. SMITH. I do not think they were. I think, only those who were interested in actual water use of the Colorado River and their representatives were invited. They tried to eliminate, so far as possible, political affiliations.

The CHAIRMAN. And also those that were for the treaty?

Mr. SMITH. It was a contratreaty conference.

The CHAIRMAN. Yes. You announced before you got them there that it was an antitreaty meeting?

Mr. SMITH. That is right.

The CHAIRMAN. Those that were not for the treaty would come, and those that were for it would not?

Mr. SMITH. Those who were in favor of the treaty had already held a conference of their own at Santa Fe.

The CHAIRMAN. Go ahead.

Mr. SMITH. Incidentally, Nevada and California were not invited, either, to that conference.

The CHAIRMAN. You returned the courtesy?

Mr. SMITH. Yes, sir. To proceed, I did not think it would be possible for me to come here for the hearings and asked Mr. Fisher Harris, of Utah, also a member of the working committee, to speak to the organization. He has been heard by you. Mr. Harris represents the Metropolitan Water District of Salt Lake City and is also a director of Provo River Water Users Association. His presentation to you was very complete, and I need add nothing on behalf of the Colorado River Water Users Conference. You have received the resolution against the treaty adopted by it by unanimous vote.

If the resolution has been submitted and read, I will just submit it "as is."

Senator McFARLAND. Senator McCarran put it into the record.

The CHAIRMAN. It is not necessary to read it.

Mr. SMITH. I will not read it at this time.

I wish now to present a statement by Senator James G. Scrugham, who is confined in a hospital and unable to be here.

The CHAIRMAN. Are you authorized by Senator Scrugham to present it?

Mr. SMITH. Yes, sir. For about 40 years Senator Scrugham, first as an electrical engineer, then as Nevada State engineer, later as Governor of Nevada and moving upward and moving forward as Congressman for Nevada and now one of your august body, has stood in the front rank of those who have studied and worked upon the problems of the Colorado River. No man alive has more authoritative background, based on engineering experience and political history, on which to base an opinion of this treaty. In company with the late great Senator Key Pittman, Herbert Hoover, and other men of note, he worked out the details of the Boulder Canyon Project Act, and the Colorado River compact, which latter he signed for Nevada. Senator Scrugham's statement, like the man, is brief and to the point. This is Senator Scrugham's statement [reading]:

On November 24, 1922, I signed the Colorado River compact on behalf of the State of Nevada. I participated in all of the negotiations which led up to the signing of that compact, and have been intimately associated with the development of the Boulder Canyon project from its inception, as State engineer, as member of a special board of engineers advising the Secretary of the Interior, and as Governor of my State, and as Congressman and a member of the Appropriations Committee subcommittee which passed upon the major part of the appropriations for this project, and as United States Senator.

The proposed treaty with Mexico allocating the waters of the Colorado River is of very questionable value. It cuts across all of the work of the Colorado River compact, setting the States at each other's throats again by imposing upon the river system a new first mortgage, a priority, a guaranty, in favor of new lands in Mexico. The lands are guaranteed stored water out of Boulder Dam, in flat contradiction of the congressional mandate contained in section 1 of the Boulder Canyon Project Act, that the water stored there should be for beneficial uses exclusively within the United States. That assurance is contained in every water and power contract, including those to which my State is a party, and including even the Arizona water contract, signed the very same week that this treaty was signed, in 1944.

Senator Key Pittman, of Nevada, when he was chairman of the Foreign Relations Committee, served notice, when this language was under debate in the Senate, that this language meant exactly what it said.

The spokesmen for this treaty intimate that the writers of the Colorado River compact intended to subordinate American uses to some future treaty with Mexico because the compact says that "if, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such water shall be supplied, first, from waters which are surplus"; and if the surplus should prove insufficient, then the deficiency should be borne half by each basin.

No one who participated in the negotiation of the Colorado River compact had the slightest notion that stored waters would be granted to Mexico and none intended that to be done. No one thought and no one intended that any right recognized in Mexico should have any priority, much less a guaranty, ahead of the older projects on the American side. They all recognized, and everyone recognizes now, that no American development should take away from Mexico the quantity of water she was using out of the stream before Boulder Dam was built; but until 1944 no one had the slightest notion that the State Department was going to reverse an act of Congress and take away stored waters which the United States had already contracted to deliver to Arizona, Nevada, and California in order to give them to Mexico.

This treaty violates not only a law of Congress but also good sense. It comes just a little in advance of the release of the Interior Department's great plan for the comprehensive development of the Colorado River Basin, ordered made by the Boulder Canyon Project Act in 1928. This plan, when released, will show that there are excellent and highly desirable projects in all seven States of the Colorado River Basin which show a crying need for water far in excess of the whole available supply. Some of these projects are going to have to be cut back and abandoned to the desert, if this guaranty, this first mortgage, this priority, is given to Mexico. The Gila project, earmarked by the Boulder Canyon Project Act for ex-servicemen, has already been cut back from over 500,000 acres to less than 200,000 acres, because of this treaty. Similar blows may be expected to fall on every State in the basin.

The Fort Mojave project in southern Nevada and Arizona, comprising some 5,100 acres, intended for ex-servicemen, which is land suitable for the cultivation of dates and special crops and which would be irrigated from Davis Dam, would not have enough water.

A perfectly fair and equitable settlement with Mexico is possible, but it is preposterous to guarantee to lands in Mexico, largely held by American speculators, rights superior to those secured by a half century of patient and costly development in our own country.

I trust that the Senate will, in the interest of protecting just and meritorious American rights, reject this treaty and force the negotiation of a sane and realistic one, a treaty which will do justice to Mexico without doing injury to our own citizens and our own country.

The CHAIRMAN. Senator Scrugham refers to the Gila having been cut back from over 500,000 acres to less than 200,000 acres. Is that correct?

Mr. SMITH. I do not know, Senator.

The CHAIRMAN. You know that there is not a drop of Colorado River water now being used in the Gila project, that it is all out of the Salt River and the Gila River?

Mr. SMITH. I think that is correct.

Senator McFARLAND. What do you mean by the Gila project—down at Yuma? Pardon me for interrupting, but we have various projects that might be termed Gila projects. The project at Safford might be termed a Gila project. The San Carlos project might be referred to as the lower Gila project. It is down at Yuma. I do not know whether reference is made to that or not. I think it has been referred to as the Gila project in this report.

The CHAIRMAN. I am talking about what Senator Scrugham said. He said it had already happened.

Mr. SMITH. I think he meant that it would have to be cut back.

The CHAIRMAN. He said it had, already.

Senator WILEY. Is that the confidential report that you are talking about?

The CHAIRMAN. I am talking about what Senator Scrugham says. Read that over again, please.

Mr. SMITH (reading):

The Gila project, earmarked by the Boulder Canyon Project Act for ex-service-men, has already been cut back from over 500,000 acres to less than 200,000 acres.

Senator WILEY. That simply means that when this plan laid out by the Department becomes public it will show that instead of 500,000 acres, because of the contemplated ratification of this treaty the Department has now decided to cut it down to 200,000 acres.

Mr. SMITH. That is what I think the Senator means; and that is the condition.

The CHAIRMAN. We can hear the Senator later.

Senator MILLIKIN. How many acres are there in that soldier project?

Mr. SMITH. I do not know exactly. It is around 500,000 acres, I believe.

Senator MILLIKIN. How many acre-feet of water do you usually use for irrigation there?

Mr. SMITH. I do not know how much water was used.

Senator MILLIKIN. Five or six? Is that the customary amount?

Mr. SMITH. I would say it would take at least 5 acre-feet per acre.

Senator MILLIKIN. If you cut it back 300,000 acres, and if it involved 5 acre-feet, somebody has been rather profligate in cutting.

Mr. SMITH. I would like to add a few words to show the reasons why Nevada opposes the treaty.

In regard to power use, Nevada has a contract with Bureau of Reclamation for use of power from Boulder Dam power plant. Under this Federal contract we withdraw and have been selling power to our State contractors, municipal and private, from 250,000,000 to 300,000,000 kilowatt-hours per year. For a small State it is quite a large power business, and we pay about \$400,000 per year toward the amortization of Boulder Dam out of some \$650,000 to \$700,000 total Nevada-Boulder Dam power expenses.

We see that this power is delivered to the common people of Nevada at the lowest possible expense. The Secretary of the Interior supported an amendatory act to the Boulder Canyon Project Act with the understanding that the reduction in rate effected by the Adjustment Act be passed on to the people and not stay in the hands of the contractors. We have been complimented by the Interior Department in writing for our full compliance. We hope that this cheap power will bring more industry and people to Nevada.

If this treaty goes into effect and Mexico draws excessively on Boulder Dam storage in times of low water, there will not be enough power to fill the needs of all Boulder users. Nevada's supply would be curtailed in its proportion of the whole.

The CHAIRMAN. Do you know how much water is flowing down through the river annually that reaches Mexico?

Mr. SMITH. Approximately anywhere from 9,000,000 acre-feet to 10,000,000 acre-feet per year, I think, Senator.

The CHAIRMAN. So you think if we ratify this treaty it would dry up some of the projects above there?

Mr. SMITH. In the course of time all this water will be used.

The CHAIRMAN. How can you dry them up if they are not in operation? You are testifying there is 9,000,000 acre-feet going down the river now to the Mexican border, and if this treaty is adopted you are going to dry up some of your projects.

Mr. SMITH. That is what will happen when the ultimate use is made of this water.

The CHAIRMAN. Go ahead.

Mr. SMITH. And there is another factor that enters into it, and that is the periods of drought, when there is far less water than that—less than 10,000,000 acre-feet of water in the river some years.

The CHAIRMAN. You have storage.

Mr. SMITH. We had one period in which there was only 12,000,000 acre-feet of water to satisfy upstream States, downstream States, power, and everything else.

The CHAIRMAN. The storage capacity of Boulder Dam is 32,000,000 acre-feet.

Mr. SMITH. That is, the effective storage capacity is only about 20,000,000 acre-feet.

The CHAIRMAN. What other kind of storage is there except effective storage?

Mr. SMITH. That is set up by engineers as the water that can be used. The rest has to be controlled for irrigation, to maintain the head, and so forth.

The CHAIRMAN. It is in the dam until you let it out, is it not?

Mr. SMITH. It is let out in that way. It has that much effective storage.

The CHAIRMAN. If you have 20,000,000 acre-feet stored up you can let a little of it out.

Mr. SMITH. That is not the proposition. If we are obliged to release that water, 4,000 second-feet flow from Boulder Dam at a time when that water should be stored and used for power later on, we have to turn that water through the wheels which run idle, and there is just that much power wasted. And the construction of Davis Dam will not save it, either, because it has to go on through to Mexico. Mexico wants that water to use for irrigation. So, when excess water is demanded by Mexico for seasonal irrigation in that way, it is going to affect our power supply.

The CHAIRMAN. Oh. Your power supply. I thought you wanted irrigation.

Mr. SMITH. It will affect irrigation to some extent, too. It affects both. Our power means a lot to our people. It is needed for our mines, our lands, and we need it for pumping. We are giving that power to our people at cost. We are not in the power business to make money. The set-up is sufficient, so that by the release of eight or nine or ten million acre-feet it meets all present needs. But if we had to add to that an extra release for Mexico, that just depletes the storage that much and depletes the available power. In a time of drought that is going to hurt.

The CHAIRMAN. How much do you have to let out to generate all the power that is being generated at Boulder now?

Mr. SMITH. The engineers can answer that better than I can, but I am of the opinion that it would be around somewhere between nine and ten million acre-feet.

The CHAIRMAN. The lower basin is only entitled to 750,000 out of that. The rest of it is going on down to Mexico, even if the lower basin should appropriate every acre of ground and every gallon of water that they are entitled to except one-half the surplus. Do you know about that?

Mr. SMITH. Well, at the present time there is surplus going down the river.

The CHAIRMAN. All right. Go on with your statement. You are an engineer, are you not?

Mr. SMITH. Well, I qualify as such, I believe, Senator.

The CHAIRMAN. You said the engineers could answer the question and you cannot. But you are the State engineer of Nevada, are you not?

Mr. SMITH. I do not study all the engineering questions that come up with regard to this matter.

The CHAIRMAN. You know whether you are an engineer or not. I do not. Go ahead.

Mr. SMITH. With reference to water use, the United States Bureau of Reclamation, in preliminary studies for a comprehensive report on the water and land resources of the Colorado River Basin, estimates that about 35,000 acres of land in southern Nevada could be irrigated from the river. This seemingly conforms with their studies made some years ago on which Nevada's extremely small allotment of water was based. We know that we have approximately 60,000 acres that can be irrigated from the Colorado, which would use all of our water during normal flow periods, leaving none for manufacturing, industrial, and municipal development in the Las Vegas area, for which not less than 100,000 acre-feet should be reserved.

If we grant Mexico in excess of 750,000 acre-feet per year, it will ultimately mean 26,470 acre-feet taken from Nevada's allotment, which would irrigate 6,620 acres of desert land worth at least \$993,000 at \$150 per acre.

That is a low price for special croplands in that vicinity.

This is not an excessive value for fertile subtropical land upon which valuable specialty crops are grown. We do not think we should willingly make such a sacrifice to Mexico or that it should be necessary to do so to retain her good will.

Governor Carville said in a recent statement for publication:

I am in favor of a treaty with Mexico, but it must be a fair treaty. There is much talk as to what will happen to us if we should be obliged to arbitrate this treaty under the provisions of the Pan-American Treaty of 1929 and how we must inevitably lose and be absolutely compelled to deliver far more water than the present treaty calls for. All I have to say regarding this is, that I have great faith in the sound judgment of our President and Senate. They will never consent to arbitrate away the very life and sustenance of millions of our citizens, and I do not believe the Pan-American Treaty will be invoked if it could bring about such an utterly unfair and disastrous result.

I am rather impatient with those who argue that California alone does not want this treaty, that California wants to develop more land and to protect her inadequate water contracts with the Interior Department and to generate more electric power. Can it be that a curious and indefinable jealousy of California's energy and zeal in using this great river is the reason? Let us forget State boundaries a little and remember that all those millions of people in California are United States citizens and that they have been depending upon their beneficial use of the water for many years, and those people have definite plans and proj-

ects to use their entire allotment of water in the near future. They know it will not be enough for their needs. On the basis of population, they more than outnumber all the other States combined.

We think that the plan which was submitted to the State Department at the El Paso meeting of June 17, 1942, was more than fair and was based on more water than Mexico used before she could take advantage of Boulder Dam storage. That plan took 800,000 acre-feet as a basis of water to Mexico during years of normal flow and incorporated the feature, which, in my opinion, is indispensable, of a sliding scale. We would like to see a treaty written on that basis.

We do not favor the proposed form of control of the river systems.

SENATOR MILLIKIN. Do you figure that a sliding scale is a fair method of apportioning water?

MR. SMITH. Yes, sir. It is based on the water available at the time it is available.

SENATOR MILLIKIN. Let me invite your attention to the fact that when we were negotiating the compact between the States, the lower States insisted upon a guaranty of the amount rather than a sliding scale.

MR. SMITH. It gives too much authority and control to one United States Commissioner over the water rights of our people without adequate recourse to the courts or to Congress. We do not like a treaty of that sort, which must be perpetual unless Mexico consents to its change or repeal, in the event we should find its details of management unsatisfactory. A more elastic and workable control should be provided, similar to those in our existing treaties.

For these reasons, the State of Nevada opposes the ratification of this treaty.

THE CHAIRMAN. You testified that the Governor thought there ought to be a treaty of some kind.

MR. SMITH. Yes.

THE CHAIRMAN. You do too, do you not?

MR. SMITH. Yes, sir.

THE CHAIRMAN. There ought to be a treaty with Mexico?

MR. SMITH. Yes; I think it should be a fair treaty.

THE CHAIRMAN. If you could write it, it would be satisfactory?

MR. SMITH. I would not go so far as to say that. I believe, though, that if the Committee on Foreign Relations would write it, it would be satisfactory; but not the State Department.

THE CHAIRMAN. You recognize that the State Department is the intermediary between our Government and foreign nations, and it is a part of the Government of the United States, do you not?

MR. SMITH. Let me say this, Senator: The Committee of Sixteen and the Committee of Fourteen had a meeting—

THE CHAIRMAN. Nevada and California seceded from the committee, did they not?

MR. SMITH. No, sir. We are still members.

THE CHAIRMAN. You were outvoted, though, were you not?

MR. SMITH. Yes, sir. Will you let me continue just a moment?

THE CHAIRMAN. Certainly.

MR. SMITH. We had meeting to consider the Mexican problem, at El Paso, in June of 1942. At that conference this idea of the sliding scale was favored by all of the people that were there representing

all the States, and a program was worked out and presented to the Department of State as the basis of framework on which to conduct their negotiations with Mexico. We asked them—it was not recommended—we asked that representatives of the States be allowed to confer with them before they made a firm commitment as to a treaty with Mexico. That was never done.

The CHAIRMAN. You say that was never done. It is in testimony here that the Committee of Fourteen, at least—I do not know about the Committee of Sixteen—were in constant conference with representatives of the State Department while this treaty was being negotiated. Are you prepared to deny that?

Mr. SMITH. I am. The Department of State left that meeting and negotiated with Mexico and worked this thing out, and there was not a man on the Committee of Fourteen that knew a thing about it, until a memorandum was presented at a meeting in Denver.

The CHAIRMAN. That was before the treaty was signed, was it not?

Mr. SMITH. Oh, yes.

The CHAIRMAN. Then you knew about it before it was signed. You said a while ago that they had not conferred with a single member of the Committee of Fourteen about the treaty. Now, is that correct?

Mr. SMITH. That is right. It was done in the way I say. They negotiated this treaty satisfactorily to Mexico and brought it before the Committee of Fourteen without in the meantime having discussed any of the provisions of it with the members of the Committee of Fourteen. We never knew—and I am a member of that committee—I never knew a thing about it. We were very much interested. We were absolutely absorbed in it when it was presented by the Department of State.

The CHAIRMAN. When they did submit it, how did the vote go among the members of the Committee of Fourteen?

Mr. SMITH. Nevada did not vote at that time. California voted against it, and I believe the other States there voted for it.

The CHAIRMAN. They knew what was in it, did they not?

Mr. SMITH. I suppose so.

Senator MILLIKIN. What is Nevada's share of the water allocated to the lower basin States under the compact?

Mr. SMITH. It is 200,000 acre-feet per year, Senator.

Senator MILLIKIN. I think the testimony generally here has been that 750,000 acre-feet to Mexico would be satisfactory to everyone, including California. Do you think that 750,000 acre-feet would be fair to Mexico?

Mr. SMITH. Yes, I do, Senator.

Senator MILLIKIN. So that the amount in controversy is 750,000 acre-feet. The lower basin's proportion of that would be half, or 375,000 acre-feet. What percentage of that 375,000 acre-feet would you have to contribute if Boulder Dam, Davis Dam, and all the dams we expect to have in the upper river failed to provide the storage and a deficiency developed? What percentage of that 375,000 acre-feet would you have to give up, under the worst view that you can take of the matter?

Mr. SMITH. I think that is incorporated in my statement.

Senator MILLIKIN. Your percentage of the total water of the lower basin is what?

Mr. SMITH. About 26,000 acre-feet.

Senator MILLIKIN. That would be your contribution to that most extreme form of deficiency?

Mr. SMITH. That is right, I think.

Senator MILLIKIN. That would assume that Davis Dam, Boulder Dam, and the whole combination of dams did not succeed in wiping out or mitigating droughts?

Mr. SMITH. If I understand you right, the storage works will help, but the storage does not increase the total amount of water available. It simply makes for an even distribution of it. But our allowance would still be 26,000 acre-feet.

Senator MILLIKIN. I was trying to figure the worst possible situation that could come to your State if the worst possible combination of things happened.

Mr. SMITH. I think that is true. I do not think Nevada would have irrigation injured by the passage of this treaty. Far from that. We just do not think it is a fair treaty, and we do not like the way it is administered, and we do not see why our power contracts in particular should be jeopardized or injured, or that they even might be injured by the execution of such a treaty.

Senator MILLIKIN. I should like to remind you that under the compact it is definitely stated that power uses shall be subordinated to other uses; and in the compact, in the Boulder Canyon Act, and in the conference to which you referred, a treaty with Mexico is foreshadowed.

The CHAIRMAN. Your share or your allocation is 300,000 acre-feet?

Mr. SMITH. Yes.

The CHAIRMAN. How much of that are you using now?

Mr. SMITH. During the past year it was something short of 15,000 acre-feet.

The CHAIRMAN. You have a possibility of 300,000, but you have only used 15,000?

Mr. SMITH. Yes, sir.

Senator McFARLAND. I would like to introduce some resolutions at this time.

One of them is from the Ajo District Chamber of Commerce, which speaks for itself, urging the adoption of the treaty.

Next, a telegram from the Gila Valley Irrigation District, signed by W. E. Waldron, the same one that was read by Mr. Scott. Mr. Waldron, I believe, is president of the Gila Valley Water Users.

I have a letter from Henry Frauenfelder, president of the Yuma County Water Users Association, which letter is addressed to me.

Also a telegram from D. E. Ingham, representing the council of Yuma County, enclosing a resolution.

Another communication is by Sidney Cartus, who signs as a member of the legislature.

I also have a telegram from L. P. Barkley, president of the Yuma Conservation Club, which is against the treaty.

A communication which I think I should explain is signed by Reed and Anderson, inasmuch as it came up for discussion during the testimony. Mr. Reed is attorney for the San Carlos Irrigation and Drainage District, and Mr. Anderson is the engineer who appeared on the resolution which was adopted.

(The telegrams, resolutions, and letters referred to and submitted by Senator McFarland are as follows:)

RESOLUTION

Whereas there is pending before the Senate of the United States a treaty between the United States and Mexico relating to the utilization of the waters of the Colorado and Tijuana Rivers and Rio Grande below Fort Quitman; and

Whereas it is desirable and necessary that there be a definite limitation of the extent of the Mexican rights in the use of the waters of the border streams in order that there may be a firm basis for ascertainment of the amounts of water available for use on large and important water use projects in those portions of the United States dependent for their economic development upon the waters of the border streams; and

Whereas it is the considered opinion of the Ajo District Chamber of Commerce that the pending treaty is fair and equitable both to the United States and to Mexico and provides for a method of enforcement which is in accordance with the traditional and accepted principles of our constitutional form of government; and

Whereas an overwhelming majority of the States most vitally affected by the terms of said treaty have declared their approval of said treaty; therefore be it

Resolved, That the Ajo District Chamber of Commerce approve said treaty and recommend that the Senate of the United States advise and consent to ratification; and be it further

Resolved, That a copy of these resolutions be forwarded to the President of the United States, the Secretary of State, the Honorable Tom Connally, chairman of the Senate Foreign Relations Committee, and to the Senators from the State of Arizona.

Dated this 24th day of January 1945.

[Telegram]

SAFFORD, ARIZ., February 6, 1945.

HON. E. W. MCFARLAND,

Senate Office Building, Washington, D. C.:

We hereby indorse the resolutions adopted by representatives of the actual water users of the Colorado River Basin at Las Vegas, Nev., on January 13, and petition the Senate of the United States to disapprove the Mexican water treaty now being considered.

GILA VALLEY IRRIGATION DISTRICT.
W. E. WALDRON, *President*.

YUMA COUNTY WATER USERS' ASSOCIATION,
YUMA IRRIGATION PROJECT,
Yuma, Ariz., January 12, 1945.

HON. ERNEST W. MCFARLAND,

United States Senate, Washington, D. C.

DEAR SENATOR MCFARLAND: The proposed Mexican water treaty has been discussed here for nearly a year during which time the Imperial Irrigation District officials have directed a constant barrage of antitreaty propaganda at us. Members of our own board of governors have made a careful study of the pending treaty with a view of offering intelligent advice to our Senators. A cross section of the views held by all the people in Yuma Valley would, I think, reveal limited approval of the treaty in its present form.

At our regular January 8 board meeting the governors of our association directed me to submit the following statement of our attitude toward the pending treaty for your consideration when it comes up for Senate ratification.

"The board of governors of the Yuma County Water Users' Association approves the proposed treaty with Mexico relating to the Colorado River, with these reservations: (1) That the powers of the Commission referred to in article 2 under 'Preliminary provisions,' be made subject to control by the Congress; (2) that no permanent dam be built in the Colorado River for the purpose of diverting water into Mexico; (3) that if it ever becomes necessary because of extreme drought or other reasons to prorate water, preference be given to

lands within the United States to the extent of reducing the Mexican supply at two times the rate of reduction applied to the American water supply."

This statement is a compromise of divergent views held by members of our board and other interested groups in the valley. As is usual in discussion of controversial questions the antics have been most vociferous.

We are confident that you will give proper consideration to the whole question and make an independent study of the treaty before acting on its ratification.

Yours very truly,

HENRY FRAUENFELDER, *President.*

[Telegram]

YUMA, ARIZ., *January 23, 1945.*

HON. ERNEST W. MCFARLAND,

Washington, D. C.:

Members of council of Yuma County Water Users resolve very strongly against treaty ratification. Copy follows by air mail. People here cannot understand action of State legislators and speak bitterly.

D. E. INGHAM.

INGHAM & INGHAM,
REAL ESTATE AND INSURANCE,
Yuma, Ariz., *January 21, 1945.*

HON. ERNEST W. MCFARLAND,

Washington, D. C.

DEAR SENATOR MCFARLAND: Today 8 (1 is out of town) of the 10 members of the council of the Yuma County Water Users' Association signed an agreement that they would vote at the next meeting for the following resolution.

"Resolved, That we are unalterably opposed to the proposed treaty between the United States and Mexico for the allocation of the waters of the Colorado River and which also provides for permission to Mexico to build a permanent diversion dam below the California-Mexico boundary.

"That said proposed treaty guarantees, perpetually, 1,500,000 acre-feet of water per annum, which would eventually deprive United States lands of water which could and would be used in the United States.

"That said proposed treaty provides that a permanent diversion dam be built by Mexico below the upper boundary within 5 years. This would be a dam, built of earth works and would be a permanent threat and danger to the Yuma and Imperial districts and would be certain to cause seepage which would make valueless lands in the Yuma, Bard, and Gila Valleys.

"That we urge our Senators and other officials to resist the approval of the treaty. It takes away from us rights considered vested and which the pioneers who have developed our Southwest had an absolute right to rely on."

Yours truly,

D. E. INGHAM.

[Telegram]

ARIZONA HOUSE OF REPRESENTATIVES,
STATE CAPITOL,
Phoenix, Arizona, *January 24, 1945.*

Senator TOM CONNALLY

*Chairman, Foreign Relations Committee U. S. Senate,
Washington, D. C.*

As a member of Arizona House of Representatives now in session, and of House irrigation and agriculture committee, I protest against the disastrous pending U. S.-Mexico Water Treaty on which hearings are now being held before your committee. Arizona's main irrigation projects and patriotic people are opposing this unfair inequitable treaty which would upset all existing water laws and rights and destroy Arizona's present and future reclamation projects by forcing her Colorado River only waters to Mexico for all time and ruin proper development of entire river system by structures and development at mouth in Mexico instead of from the sources down. International commission created by treaty would empower Mexico to invade Arizona's soil and veto her development. Waters of Colorado River and its tributaries have been appropriated since 1923 by Colter filings for State and people of Arizona and reflow waters therefrom will more than supply all Mexican Colorado River lands.

This treaty scheme first started in 1900 to give Arizona's waters to 2,000,000 acres in Mexico owned by American land speculators to be colonized by Japs to conquer us, and I urge Senate reject treaty which menaces national defense, subverts Constitution, and desolates Arizona. Protest your committee hurrying treaty and failing to hold hearings thereon within affected States. Request this be read at your hearing and entered in record. This protest is also by trustee and organizations as listed below.

SIDNEY KAETUS,

*Trustee for Colter Water Filings for and on Behalf of State of Arizona;
President, Grand Canyon-Glen-Bridge-Verde Highline Pre-Organization
Municipal Reclamation District; President, Arizona Highline
Reclamation Association.*

[Telegram]

YUMA, ARIZ., January 22, 1945.

Senator ERNEST W. McFARLAND,
Washington, D. C.

The Yuma Conservation Club, representing the owners of most of the land in the Yuma Valley, was organized for the purpose of opposing the treaty with Mexico. We believe the provisions would seriously injure or make useless our farm land. We oppose giving natural resources of the United States to a foreign country; we oppose nullifying existing treaties and also nullifying contracts between the Government and the people of the United States; we oppose centralization of power in the hands of a water commission composed of very few persons, some of whom are citizens of a foreign country and giving it vast powers not subject to control of Congress; we oppose the taking of much needed water from six States in order to gain a small amount for one State, Texas. We firmly believe that the whole deal both in Mexico at this point and in Texas is for the benefit of one large cotton interest. A member of which is a close Presidential adviser. We urge that you have the proposed hearing postponed and that you represent us in the protection of our interests and the interests of the people of the United States by opposing the ratification of this treaty.

L. P. BARKLEY, *President.*

[Telegram]

COOLIDGE, ARIZ., January 20, 1945.

Senator ERNEST W. McFARLAND,
Senate Office Building.

Understand Mexican treaty affecting waters of Colorado River scheduled for hearing Foreign Relations Committee next Monday. In our judgment a treaty with Mexico on Colorado is necessary but we are fearful that present draft far too liberal and gives guarantees to foreign interests without giving reasonable assurance to our own States, particularly Arizona. District has so far taken no definite stand for or against treaty, believing that full hearing will develop all pertinent facts. We understand Salt River Valley water users desire to present their opposition before committee and that they are unable to save representation therein short time allotted. We believe their views and those of others opposing treaty are highly important in the development of full and fair hearing. Accordingly, we urge the hearing be postponed for 30 days or at least until both sides are given full opportunity to attend and be heard.

REED & ANDERSON.

The CHAIRMAN. I am sorry that these gentlemen did not attend the hearings so that they could be cross-examined.

Senator McFARLAND. I promised them that I would present these matters.

The CHAIRMAN. They are in, but I do not think it is quite the right thing for them to do. They do not have enough interest to come here so that we can cross-examine them.

The committee stands in recess until tomorrow morning at 10:30.

(Whereupon, at 5:25 o'clock p. m., a recess was taken until tomorrow, Saturday, February 10, 1945, at 10:30 a. m.)

WATER TREATY WITH MEXICO

SATURDAY, FEBRUARY 10, 1945

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D. C.

The committee met, pursuant to adjournment, at 10:30 a. m., in the committee room, the Capitol, Senator Alexander Wiley presiding.

Present: Senators Connally (chairman), Thomas of Utah, Green, Hatch, Johnson of California, White, La Follette, Capper, and Wiley.

Also present: Senators Downey, McFarland, Murdock, and Millikin. Senator WILEY (presiding). The committee will come to order. You may proceed, Mr. Tipton.

SIX STATES COMMITTEE

STATEMENT OF R. J. TIPTON, CONSULTING ENGINEER—Resumed

Mr. TIPTON. Mr. Chairman and gentlemen of the committee, the last topic which I was discussing yesterday was the effect of the terms of the treaty on present and potential uses of water in the United States. I had finished a discussion of the effect on the Rio Grande. I had started my testimony in connection with the effect of the terms of the treaty on the uses of the Colorado River and had read into the record the allocations article of the Colorado River compact; namely, article III.

Senator WILEY. You take the position, I understand, that without any treaty you feel that the rights of the users of water in the United States would be prejudiced?

Mr. TIPTON. Very definitely so; yes, sir.

Senator WILEY. And you base that primarily upon the idea that Mexican civilization might build up a use that would be a basis for an equitable claim against the water supply of the Colorado River in the future?

Mr. TIPTON. Definitely; with one qualification. Not "might," but "would" build up such a use. There is no question in my mind, sir, about that.

Senator WILEY. That would depend upon whether or not the water of the Colorado were made available for Mexico; would it not?

Mr. TIPTON. No. The water is being made available unavoidably by the operation of works in the United States. Mexico can divert and use that water without the use of United States facilities, which I shall subsequently show.

Senator WILEY. Without the use of them?

Mr. TIPTON. Yes, sir.

Senator WILEY. Let me ask another question in that connection. What about the utilization of more facilities in the United States to restrict the quantity of water that goes down into Mexico?

Mr. TIPTON. I think at the present time it would be entirely impracticable, unless the United States would forego the operation of Lake Mead in such a manner as to generate the hydroelectric energy that she has contracted to furnish to contractees. It would be absolutely impossible, Senator, to manipulate the operation of Lake Mead in such a manner as to make the water that is going to Mexico unusable without interfering materially with the generation of hydroelectric energy at Boulder Dam. I shall subsequently show that.

Senator WILEY. What about the erection of larger dams which are in contemplation?

Mr. TIPTON. The only other dam that is at present contemplated below Boulder Dam is Davis Dam, which will form Bullshead Reservoir, with a capacity of 1,600,000 acre-feet. It will be some years before that dam is completed. Further, I think it is evident that a reservoir with 1,600,000 acre-feet could not successfully manipulate the regulated flow from Lake Mead of some 10,000,000 acre-feet in such a way as to make that water unusable by Mexico. I will qualify that and say, make the water going to Mexico unusable in material amounts. Mexico, under any conceivable conditions, would get three or four million acre-feet despite what the United States might do in the manipulation of works that could be constructed within a reasonable time.

Senator WILEY. You take the positive position, then, that, irrespective of any further improvements contemplated in the future by this Government, water can and will be used by Mexico to an extended amount, far greater than she has been using, that would build up a civilization in that country that would result in giving her equitable claims against this Government?

Mr. TIPTON. Yes, sir. The works that can be constructed in the United States within any reasonable time——

Senator WILEY. Pardon me. I want to get it definite. Apparently that civilization is going to result (1) from a large supply of water that is going down the Colorado; (2) the ability of Mexico to put that water into operation so that it will improve land that will make possible this civilization?

Mr. TIPTON. That is correct, sir.

Senator WILEY. There has been a lot of testimony to the contrary.

Mr. TIPTON. I intend to give my opinion on that, sir, as I proceed with my testimony. Of course, it will be within the province of the committee to consider the weight of my testimony and my opinion and the showing that I will make as against the other showings.

Senator WILEY. The point I am getting at is this. It seems to me that it is a matter that engineers ought to be able to agree on. Here is land, here is water, here is the question of creating structures that will divert or make possible the utilization of the water. There ought to be some basis that you can get somewhere near together on, without having to confuse the minds of tired Senators on the subject.

Mr. TIPTON. Well, while the minds of the Senators are fresh this morning——

Senator WILEY. Thank you. Some say we are fresh all the time.

Mr. TIPTON. May I respectfully say that I think your mind is always fresh.

Senator MURDOCK. That is without reflection on the rest of us, I hope?

Mr. TIPTON. That is correct. I will say the same for Senator Downey, sir. I have great respect for Senator Downey.

Senator DOWNEY. Thank you.

Mr. TIPTON. But, Senator, you have brought up one matter that is very important to this discussion, and with your permission I will reverse somewhat the continuity of my presentation and go into that matter at this time.

Senator WILEY. I think Senator Downey had a question that he wanted to ask you.

Senator DOWNEY. I think that by asking a few questions, Mr. Chairman, I might help develop the matter.

I agree with you that it is one of the most important questions here. You say that for a long time there will be 10,000,000 acre-feet washing down that river, and that if we try to take that water away from Mexico in order to prevent her from building up a right, we thereby depreciate our power resources to such an extent that it becomes impracticable. Is that a fair statement of your testimony?

Mr. TIPTON. Yes. There is a little shade of difference—that if we did attempt to make unusable any substantial quantity of the water going to Mexico it would impair the ability of Lake Mead to generate hydroelectric energy.

May I amplify that slightly? We are talking here—

Senator DOWNEY. You understood what I said, and I think all the members the committee did. I just wanted to get in a few brief questions.

Senator GREEN. May we hear the rest of his answer?

Mr. TIPTON. The balance of my answer is this. I cannot conceive by any stretch of the imagination that Mexico would put to beneficial use, prior to the time that the United States can, the 10,000,000 acre-feet of water that is going to Mexico. The manipulation of works in the United States to prevent Mexico from expanding her uses would have to be a manipulation of the first, say, 7,000,000 acre-feet, making it unusable, and then going on down into the balance of the 3,000,000 acre-feet, and then on down into the last 1,500,000 acre-feet which this treaty provides. So I think that, using common sense, which I am going to use insofar as I can throughout my testimony—just common sense would indicate that it would not be practicable to so manipulate our works as to make unusable 9,000,000 acre-feet or more of water that is going to Mexico at the present time in a more or less controlled fashion.

Senator DOWNEY. I would like to ask a few simple, direct questions, and if you will answer them as directly and simply as you can, I shall appreciate it.

Mr. TIPTON. I shall attempt to do so, sir.

Senator DOWNEY. You start with the proposition that it would not be practicable for us to cut off enough of this 10,000,000 acre-feet of water to prevent Mexico from building up some large rights down there?

Mr. TIPTON. That is correct, sir.

Senator DOWNEY. As a matter of fact, in order to prevent any development down there in Mexico all we would have to do would be to prevent any water going down for 60 days during the irrigation season. Is not that a fact?

Mr. TIPTON. No sir.

Senator DOWNEY. Why not?

Mr. TIPTON. Do you realize, Senator, that in the upper basin—I will take my own State of Colorado—I know many large systems that operate fairly successfully without a drop of water frequently for a period of 60 days. You must realize that plants are very tolerant; that plants live off of the soil moisture that is stored up. Plants do not live off the water that is applied to the land at the moment; they live off the water that is stored up in the soil. Water can be stored for that period of time. I am speaking with knowledge, because I know many canal systems that do that. I can cite an area of 400,000 acres in the upper Rio Grande Valley where frequently the entire area has virtually no water beyond the fore part or the middle part of July, in many years.

Senator DOWNEY. You are solemnly telling this committee that it is your opinion that even if for 2 months during the hot irrigation season in Lower California, if she could not get one drop of water, nevertheless that would not prevent her from successfully building up a large and successful operation? Is that just what you mean to say?

Mr. TIPTON. I mean to say virtually that; yes, sir. Further—

Senator DOWNEY. All right.

Senator GREEN. May we have the balance of the answer?

Mr. TIPTON. I do mean to say that I think it would be impossible to manipulate the flow into Mexico under our limited use in the United States at the present time, to prevent her getting any water for a period of 60 days.

Senator DOWNEY. That is a different question. Do you think that if we cut the water off wholly from Mexico for 90 days that would ruin her farming system?

Mr. TIPTON. During the peak of the irrigation season it no doubt would; yes, sir. I say plants are tolerant; and a categorical answer could not be given to that question.

(The chairman entered the hearing room and resumed the chair.)

Senator DOWNEY. I just wanted by three or four direct and very brief questions to indicate certain facts. But it would appear that it is totally impossible to get any brief answers, so I will desist.

The CHAIRMAN. I think that is a statement that is ungenerous to the witness. I think he has answered your questions when you have given him a chance to answer them.

Go ahead.

Senator DOWNEY. No. I think the chairman is right. I think that we get into such long arguments and dissertations—

Senator JOHNSON of California. I say the chairman is wrong. I would prefer that you proceed in the manner that you have begun.

The CHAIRMAN. We have given California nearly 3 weeks of the entire time of the committee, and a great portion of that time has been consumed by Senator Downey in asking questions and making arguments. If you want to go ahead, all right. I am not going to slam

down on you, but I do appeal, in a spirit of helpfulness to the whole committee, that we go ahead as briefly as we can, because other States have got to be heard.

Senator JOHNSON of California. Nobody has interfered with the hearings of other States, that I have heard about, in this committee room at all. They have all been ready to proceed.

The CHAIRMAN. Senator, I have tried to be considerate; I have not at any time vetoed anything you wanted to do or say.

Senator JOHNSON of California. I would hope that anything that was wrong would be vetoed.

The CHAIRMAN. Go ahead, Senator.

Senator DOWNEY. First, if you will permit me to say this. I know that the chairman has heretofore, several times, said that I had occupied a large part of the time of this hearing by my questions and comments. The transcripts will show that many days I asked not one single question, and that seldom have I occupied as much as 30 minutes, probably, in any one day.

The CHAIRMAN. I think the record will show, and the committee members know, that a very large part of the time has been given to your cross-examinations and to your direct examinations.

Senator DOWNEY. The transcript will speak for itself.

The CHAIRMAN. Yes; the transcript is here. In addition to that, I want to say that I told you that it would be all right for you to go on Monday, so far as I am concerned. I have not consulted the rest of the committee. But if you are going to make an argument Monday it seems to me that we ought to postpone it and hear the men who are here on expense—you will be here all the time, I assume—and if you want to make a closing argument when the case is over, do it at that time rather than consume Monday morning in an argument to the committee.

Senator DOWNEY. No, Mr. Chairman; I have made all my plans under the statement made to me by the chairman to address the committee on Monday.

The CHAIRMAN. Are you going to testify or address the committee?

Senator DOWNEY. Well, I am going to testify. So I will desist from any further questions.

The CHAIRMAN. Are you going to leave the city?

Senator DOWNEY. No, Mr. Chairman. You yourself stated to me——

The CHAIRMAN. I will stand by what I stated to you, but I would like to have a little cooperation. We have put this matter off for months in order to accommodate California, and now we have given California 3 weeks of time.

Senator JOHNSON of California. Do not put it on California.

The CHAIRMAN. I will put it on Arizona, then. I suppose they are responsible for the 3 weeks of time.

Senator JOHNSON of California. Or put it on Nevada.

The CHAIRMAN. Anything you want, you get. I want to be considerate with all Senators, and I think I have been.

Senator JOHNSON of California. I will not take it as my colleague does. I insist on my rights.

The CHAIRMAN. I will submit it to the committee as to who has consumed the time. The record shows that we started on the 22d of January.

Senator WILEY. I probably am responsible this morning. I asked a few questions, and I thought Senator Downey was asking several that were pertinent to what I had provoked. I feel that it is very important. I might say to the chairman that the witness answered my questions very clearly, but Senator Downey felt that he should cross-examine, and I felt that he was within his sphere of action in that; and you yourself stated that it was all-important that we get the facts.

The CHAIRMAN. Go ahead, Senator Downey, and ask all the questions you want to.

Senator DOWNEY. Mr. Chairman, I have lost any ambition to ask questions. I appreciate your courtesy, but I shall be very happy to express my ideas to the committee on Monday morning, as the chairman very courteously has accorded me the right. So you can count upon it that from now on I shall not ask any questions.

Mr. TIPTON. Mr. Chairman, as Senator Wiley has suggested, there were several items brought out by Senator Wiley that are important, and I suggested that if it was the desire of the committee I would change the continuity of my statement and testify on those points at this time; otherwise I would continue with my statement.

The CHAIRMAN. Go ahead, either way you want to, just so you get it in.

Mr. TIPTON. Senator Wiley, if I may continue in my regular continuity, will that be satisfactory, or do you want me to go into the matters that you raised, at this time?

Senator WILEY. Since the Lord gave you judgment, use it.

Mr. TIPTON. Then I shall continue in the continuity that I had worked out.

Senator JOHNSON of California. I have a very distinct recollection that you were one of the first witnesses to testify in this matter.

Mr. TIPTON. Yes, sir.

Senator JOHNSON of California. Did you not then state in continuity, as you term it, your testimony?

Mr. TIPTON. When I testified first, Senator Johnson, if you will recall, sir, I testified at the request of the chairman, because California requested further information with respect to return flow. I was not coming on at that time, but California requested it, and I thought it was a very fair request, testimony having been offered with respect to return flow with no detail. I thought California certainly had a right to request that additional information, and I was perfectly willing to go on and explain it, and I did so at the request of the chairman.

Senator JOHNSON of California. That is another thing that is put upon the head of California, then?

Mr. TIPTON. Yes, sir. That is put upon the head of California, sir.

Senator JOHNSON of California. California has been very derelict in the presentation of its case.

Mr. TIPTON. I say that in all respect, sir, but it is a fact that I did testify at the request of California, and I thought it was a fair request.

The CHAIRMAN. On that point, I do not recall whether it was Mr. Swing or who it was that asked that before we went any further we develop a little more from the testimony of the proponents as

to the return flow, and on that point only we recalled witnesses and they did testify on that.

Senator JOHNSON of California. Now they are recalled on a specific point?

The CHAIRMAN. Yes, sir.

Mr. TIPTON. I was not recalled, sir; that was my original appearance.

Senator JOHNSON of California. Now we are getting all mixed up again.

(Informal discussion followed between several members of the committee, after which the following proceedings took place:)

The CHAIRMAN. Go ahead, Mr. Tipton.

Mr. TIPTON. Referring back to the allocation provisions of the Colorado River compact, your attention is directed to subsection (c), which provides specifically that should a treaty be negotiated with Mexico the waters allocated to Mexico should come from water in addition to that apportioned by subsections (a) and (b), or, in other words, water in excess of 16,000,000 acre-feet per annum. The subsection provides further that should such surplus over the 16,000,000 acre-feet be insufficient to satisfy the Mexican allocation the deficiency should be borne equally by the upper and lower basins.

Attention is directed also to provisions of subsection (f). This subsection recognizes all waters covered by subsections (a), (b), and (c) as apportioned waters. It then specifically provides that any waters in excess of that apportioned by subsections (a), (b), and (c) may be apportioned after October 1, 1963, if and when either the upper or the lower basin shall have reached its total beneficial consumptive use of waters apportioned under subsections (a) and (b).

It is probable that for many years, extending well beyond 1988, when the costs of Boulder Dam and all other works presently constructed in the basin are amortized, ample water will be available under all conditions to supply all uses in the United States and the obligation of the United States to Mexico under the terms of the treaty.

What I say now will relate to the time when the two nations will be using for consumptive-use purposes all of the water available in the basin.

I discussed the other day the question of return flow and the various possibilities of use of water in Arizona which will affect the amount of return flow, so I shall not repeat that at this time. That discussion would naturally follow at this point, but it is in the record, and I will not repeat it.

Senator WILEY. If that is true, why did you have to put a guaranty in?

Mr. TIPTON. I do not quite understand you, sir.

Senator WILEY. There is a provision in the treaty guaranteeing a certain amount.

Mr. TIPTON. The guaranty will also apply to those ultimate conditions, if that time ever arrives.

Senator WILEY. One of the serious objections brought forward by some people here is that they are fearful that in the final analysis, a few years up ahead, the guaranty is going to give special preference to Mexico. You have just made the statement that you feel that in the future, 1985, there will be ample water for everybody concerned.

Mr. TIPTON. That is correct, sir.

Senator WILEY. Now my question is, Why guarantee the amount to the Mexican Government?

Mr. TIPTON. It was a necessary part of the treaty, sir. Mexico certainly would not—

Senator WILEY. I do not ask a guaranty on a note unless I am scared about the maker.

Mr. TIPTON. On the question of guaranty, I refer back to the relation between the two basins. The upper basin also is guaranteeing to the lower basin its share of the water, regardless of the fact that it will be many years before the upper basin uses water to the extent that that guaranty cannot be easily supplied.

Senator MURDOCK. There is no guaranty on the part of the upper basin. It is simply an agreement that we will not in any 10-year period deprive the lower basin of 75,000,000 acre-feet, if it is there. This guaranty is far different from what exists between the upper basin and the lower basin.

Mr. TIPTON. Subsection (d) of article 3 of the compact provides that—
and so forth.

The States of the upper division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of 10 consecutive years reckoned in continuing progressive series—
and so forth.

Senator WILEY. I do not follow your logic. Even if there were a guaranty in the North as affecting uses in the South, why should we have a guaranty for a foreign people?

Mr. TIPTON. I was going to cover that later, but I will cover it now, sir.

In the negotiations with Mexico many plans were discussed as to how the water might be delivered to Mexico; I mean, the matter of a formula. A sliding scale was discussed at some length.

Senator WILEY. That has been discussed here; and that is what they want?

Mr. TIPTON. Yes; that has been discussed here. It has been stated that at El Paso, in June of 1942, I believe it was, there was unanimously proposed by the Committee of Sixteen to the State Department a formula for the allocation of water to Mexico. I participated in that, sir, and I am familiar with it, and I supported the formula, because we wanted, of course, to get the best we possibly could. That formula, as I remember it, provided that when releases from Boulder Dam were 10,000,000 acre-feet Mexico would get 800,000 acre-feet.

I will not go into all the arguments about where it was to be delivered, and what not. The suggestion of California was that it be scaled up and down with respect to the difference in deliveries by 10 percent. I myself insisted on 20 percent, and finally we compromised on 15 percent, and I believe that is the way the formula was finally suggested. That was one kind of sliding scale.

The State Department finally told us that it was impossible to negotiate on the basis of that formula.

Senator WILEY. Did they say why it was impossible?

Mr. TIPTON. No.

Senator WILEY. Did it mean that Mexico was not willing to negotiate without a guaranty?

Mr. TIPTON. I do not know, sir.

Senator WILEY. What do you presume?

Mr. TIPTON. I cannot presume, because I do not know.

If I may continue: We did discuss with Mexico a sliding scale, and, whether it was right or wrong, we finally came to the conclusion that a definite guaranty of a certain fixed amount was better for the United States than a sliding scale.

Senator MURDOCK. May I ask a question right there?

The CHAIRMAN. Yes.

Senator MURDOCK. I have been here for 2 days just to get at this particular thing. If the sliding scale had been based on the discharge from Boulder Dam instead of the way it is now, that is, a guaranty to Mexico, except in cases of extraordinary drought or accident, then it would still have allowed the United States, would it not, to continue agricultural uses of water paramount to power purposes?

Mr. TIPTON. I think the treaty will, anyway.

Senator MURDOCK. Will you answer that question, if I have stated it so that you can understand it? To me it is of the utmost importance.

Mr. TIPTON. Will you restate your question, sir? I may not have gotten the full import of it.

Senator MURDOCK. Had the formula proposed by the Colorado River States, to which you have just now referred, which proposed a sliding scale to Mexico based on the discharge of water from Boulder Dam, been adopted, it would still have left the United States in a position to continue agricultural uses or irrigation uses paramount to power uses, would it not?

Mr. TIPTON. It would, and we can still continue agricultural uses paramount to power uses, because the Colorado River compact specifically says so.

Senator MURDOCK. That is true; but now we come right to the crux of the language of the treaty with reference to extraordinary droughts. I believe that Mexico saw clearly the picture and insisted on this very language.

Now, to give Mexico, whose rights cannot be depleted by a drought, regardless of extraordinary drought, this water until consumptive uses in the United States have been decreased, makes it utterly impossible, does it not, for us to give any preference to agricultural rights over power rights?

Mr. TIPTON. No; I do not agree with you, sir, when you say Mexico insisted on the use of the words "consumptive use."

Senator MURDOCK. I did not say that. I said I thought the Mexican negotiators saw through the picture.

Mr. TIPTON. May I state to you, sir, that I, as one of the negotiators, was responsible for the change in the language of the 1906 treaty to bring into the picture consumptive use.

I have two items confronting me at the moment, and I shall explain both of them, breaking up my continuity again, sir.

Senator MURDOCK. I have the fullest respect for your ability as an engineer, but if you were responsible for that language I think the

day will come when you will rue it and we will rue it, if that is left in the treaty.

Mr. TIPTON. No; I don't think so.

I have two questions confronting me. One is the question of the sliding scale; the other is the question of consumptive use in the extraordinary drought provision. I shall be very glad, sir, to explain those at this moment, although I was going to explain them later. I think it is well to explain them at this moment.

The CHAIRMAN. All right.

Mr. TIPTON. Let us go, then, to the sliding scale first.

During the course of the negotiations there was suggested to Mexico finally—not first, and not finally, but in the midpoint in the negotiations—there was suggested the formula which had been presented to the States at Santa Fe and which had been approved by five of the representatives of the States, Nevada passing and California voting against the formula. We never did go all the way; we never did go all the way as far as that formula was concerned. As a modification of the formula we proposed that Mexico receive water equal to 8 percent of the diversions made by the States of Arizona, California, and Nevada. That was a more or less perfect sliding scale. In other words there were not too many diversions to measure. Mexico's use would go up and down in accordance with the use in the United States. Then, further, Mexico was to receive all other waters arriving at the boundary with a guaranteed minimum of 750,000 acre-feet of this class of water, the regimen of which we did not guarantee. That formula was discussed at some length.

Senator MILLIKIN. I do not understand your statement of the schedule or the arrangement. You say we did not guarantee the water, or we did not guarantee the mechanics?

Mr. TIPTON. We guaranteed the 750,000 acre-feet, but not the manner in which it would reach the stream so far as seasonal distribution was concerned. We also guaranteed a regulated supply equal to 8 percent of the diversions by the three lower basin States. We explained to the Mexican negotiators that while our diversions at present were somewhat small, so that what we called the A class of water—that is, 8 percent of our diversions—would be small, the B class of water at the present time would be large, and the A class of water being subject to control could be used to firm up the other. As the B decreased by increased uses in the United States the A water or the 8 percent of our diversions would increase, so that their share would always be a firm amount.

That was discussed for many days. We also had suggested that all the diversions made by Mexico in Mexico be measured and that this be used as a basis charging her for the amount of water delivered to her. We were going to charge Mexico with all the water that Mexico diverted down in Mexico.

I think that both sides temporarily lost perspective in following that line of thought and in trying to explore it to the end. It suddenly became very apparent to the United States negotiators that we did not want Mexico to have her eyes above the international boundary between the two Nations; we did not want any argument with Mexico, which could be a daily argument, and a yearly argument, year after year, as to what the uses of the water were in the United States which we

had suggested as a measure of the amount of water Mexico should receive. We did not want her coming up into the United States checking our records of diversions. She had no business to do that. It may have been the source of continual argument as to what was 8 percent of the United States diversions. The very measure of the amount of water that Mexico would have received under that formula was the amount of water we were using, so that she would have had a very definite interest in the amount of water we were using and may have had a perfect right to have inspected our records or may have claimed the right to come up and check our gaging stations and what not.

We also, by like token, decided that the United States had no business going into Mexico to determine how much water she was using.

We gained, I think, from that analysis in our own minds, proper perspective, which was that each nation should keep its eyes at the boundary itself, which is the division line between the two countries; that in whatever manner Mexico uses her water is none of our business; and that in whatever manner we use our water is none of Mexico's business. So we decided it would be unwise to set up our use of water as a criterion of the amount Mexico has a right to use.

We then came to the simple formula which is in the treaty. Whether we were wrong or whether we were right, will be up to this committee to decide. I thought we were right, and I still think we were right, to guarantee the delivery as a fixed amount of water at the boundary and forget everything else.

Let us go for a moment to the formula suggested at El Paso—

Senator MURDOCK. May I just interject this question. Then the whole thing was resolved, as I understand you, Mr. Tipton, by giving Mexico a guarantee of 1,500,000 acre-feet of water annually, delivered according to schedules in the treaty?

Mr. TIPTON. There is a minimum schedule set up in the treaty. The only water Mexico can schedule is 600,000 acre-feet. That is correct, Senator.

Senator MURDOCK. There was a minimum of 1,500,000 acre-feet.

Senator WILEY. At the laterals?

Mr. TIPTON. No, sir; 1,500,000 acre-feet guaranteed in the river above the lower boundary, except that the United States agreed to deliver through the All-American Canal, not to the laterals, but at the headgate of the Imperial Dam, 500,000 acre-feet up until 1980, and 375,000 acre-feet thereafter. I will explain that in the course of my subsequent testimony.

Senator MURDOCK. May I ask one further question. We now have this picture before us as to what the treaty does. The only conditions that can interfere in any way in the world with the guarantee, (1) an extraordinary drought—is that right?

Mr. TIPTON. That is correct.

Senator MURDOCK. (2) Accident to our diversion and conservation works?

Mr. TIPTON. That is correct.

Senator MURDOCK. And (3) before we can diminish by one drop the guaranteed quantity of 1,500,000 acre-feet annually to Mexico, we must decrease consumptive uses in the United States?

Mr. TIPTON. That is the way I read the treaty, and that was the intent at the time the treaty was written.

Senator MURDOCK. So we guarantee in perpetuity to Mexico an absolute right in all of the storage works now in existence on the Colorado River or that may be erected in the future, to participate, so far as 1,500,000 acre-feet is concerned, in the storage of the Colorado River equal with American rights?

Mr. TIPTON. At the present time, sir——

Senator MURDOCK. That question can be answered without much explanation, can it not?

Mr. TIPTON. I will say this, that most of the water in the Colorado River, along the main stream, in the future will be regulated water. Nobody will know from what storage reservoir Mexico gets this water.

Senator MURDOCK. That, in my opinion, and with all due respect to you, is rather an evasive answer. My question can be answered by a simple "yes" or "no." The result of the treaty, if ratified, is that the United States Government in perpetuity guarantees to Mexico 1,500,000 acre-feet of water, which is a demand on all of the present storage facilities of the river and on all the storage facilities that may be built in the future, that cannot be decreased by one drop unless we decrease the rights of consumptive users in the United States?

Mr. TIPTON. That is correct, sir.

Senator MURDOCK. So that, regardless of the fact that the United States may spend a billion or two dollars in conservation work along the river, all exclusively payable by United States taxpayers, every dollar we spend to the extent of the guaranty to Mexico is spent for her benefit just the same as ours?

Mr. TIPTON. I do not agree with you sir.

Senator MURDOCK. Where am I wrong in that?

Mr. TIPTON. You are wrong in this respect.

Senator WHITE (proceeding). It seems to me the question can be answered categorically.

Mr. TIPTON. It cannot be answered categorically. I will say "no."

Senator WHITE. Go on and make your explanation.

Mr. TIPTON. I think you know, Senator, that it is possible within the United States to protect the prior use of water at some point downstream by the construction of reservoirs upstream for use by subsequent users of the stream.

Senator MURDOCK. I am thoroughly familiar with that, and I am sure that every member of the committee knows that.

Mr. TIPTON. The Boulder Canyon Project Act between the basins provides that very thing, that the two basins will not be divorced until 5,000,000 acre-feet of storage is provided on the stream. That is to permit the upper basin to continue its uses without interfering with the use of water under prior rights in the lower basin.

Let us connect that up with this situation. Mexico is using 1,800,000 acre-feet. I shall show subsequently that she could have used 1,500,000 acre-feet successfully before Boulder.

Senator WILEY. She could have, but did not; is that what you mean?

Mr. TIPTON. There was a deterring effect; somebody prevented it.

Senator MURDOCK. That is disputed by other engineers.

Mr. TIPTON. I am relying on Mr. Lawson, for whom I have the greatest regard. Mr. Lawson has access to records that some of the other witnesses did not have access to.

Senator MURDOCK. We can agree that there is a dispute between engineers on that fact?

Mr. TIPTON. May I continue, sir?

Senator MURDOCK. Will you answer that question?

Mr. TIPTON. Senator, there is a dispute; but I will also say that nobody has come in and suggested any other figure. Mexico is using something more than 1½ million acre-feet. I do not think anyone would dispute that.

Senator WILEY. Since Boulder Dam was constructed?

Mr. TIPTON. At the present time; yes, sir. If that use is recognized—and this treaty does recognize it—it is a preferential right against our future uses, uses we are not now making. I will tie that down in a minute. So that any future storage that we put on the river which might have the effect of delivering stored water to Mexico is for the benefit of us, in order that we might increase our uses and not interfere with the uses of Mexico that have come into being prior to our uses.

Let us tie it down to what the seven States said.

Senator MURDOCK. No. Let me now interject a question, after that statement that you have made. The question, in my opinion, can be answered yes or no. Do we not by this treaty guarantee to Mexico 1,500,000 acre-feet of water annually?

Mr. TIPTON. I have answered that, sir; yes, sir.

Senator MURDOCK. And by the other language with reference to decreasing the flow under the guarantee, basing it on a decrease of consumptive use in the United States, we guarantee to Mexico the same draft on every storage project on the entire river that we have here in the United States?

Mr. TIPTON. That is correct, sir; for the benefit of the United States.

Senator MILLIKIN. Have you finished, Senator?

Senator MURDOCK. I have one other question.

So that in the Boulder Canyon Project Act, when we say that water is stored there for exclusive use in the United States, this treaty, if adopted, changes that?

Mr. TIPTON. It does not change it, sir. You are getting away ahead of my story. You are breaking up the continuity, but I do not object. I want the committee to get these points as the committee wishes them.

Let me complete my statement in connection with this guaranty, first. This is one instance where the States that are involved had the foresight to say what kind of water should be used to take care of the Mexican burden if a treaty were ever consummated. What does the Colorado River compact say—and that is the States themselves speaking? It says, if the treaty is negotiated, that Mexico's water, to satisfy any allocation shall first come out of surplus over and above that allocated by subsections (a) and (b) of article 3. If that is not sufficient each basin shall make up equally the deficiency. That water certainly would have to be stored water.

Senator MURDOCK. Yes; I agree with that.

Mr. TIPTON. Then this treaty does not violate the agreement that the States made.

Senator MURDOCK. All I asked you was, if under the language of the treaty all storage facilities on the river built by the taxpayers of the United States became an insurance to Mexico of her guaranteed rights under the treaty.

Mr. TIPTON. They became an insurance for the United States.

Senator MURDOCK. An insurance to the United States of Mexico?

Mr. TIPTON. It becomes an insurance to the United States that the water that Mexico is using at present can be satisfied without interference with United States uses.

Senator MURDOCK. If you want to put it that way, all right.

Senator WHITE. If I understand your contention, it is that all of these stored waters which are built up through our expenditures and through our facilities, become subservient, under this treaty, to the guarantee of 1,500,000 acre-feet?

Senator MURDOCK. Absolutely. I have just one further question. We come to this fact which has been expressed many, many times to me by a very distinguished Senator of Utah, William R. Wallace, who has devoted the last 25 years of his life to this question, and in conversation I have had with Mr. Wallace he has emphasized to me that the rights for irrigation always come ahead of the rights for power. Is that your understanding of the compact?

Mr. TIPTON. Yes, sir.

Senator MURDOCK. If we had a formula which would decrease Mexican rights on the basis of discharge or on the basis of natural stream flow, which in my opinion is the correct formula, then we in the United States, in controlling storage facilities, could continue precedence of irrigation rights over power; but under the language of the treaty when we say to Mexico, "We will absolutely not decrease your 1,500,000 acre-feet of water until we begin decreasing consumptive uses in the United States"; in my opinion we thereby deny to the United States in the control of the Colorado River waters the power to distinguish between power rights and irrigation rights.

Mr. TIPTON. I do not follow you there, Senator; so I will not attempt to answer. It is a statement and not a question.

Senator MURDOCK. That is right. Is there any question about this, that we must decrease consumptive rights before we can decrease the Mexican guarantee?

Mr. TIPTON. There must be a decrease of consumptive rights. There is no argument about that. I have said that three or four times. The treaty speaks for itself.

Senator MURDOCK. Let us suppose that at Boulder Dam we had sufficient storage, if the water was used exclusively for irrigation, to supply every diversion for irrigation purposes. The people of the United States bought and paid for it.

We would say to Mexico: "Here we have all this storage. The drought that has occurred has diminished the flow of the river to the point where, if it were not for the storage on the river, there would not be anything for you. Because of the precedence of irrigation over power, we are going to stop any water from going through the Boulder Canyon Dam for power purposes and are going to conserve the whole storage capacity for irrigation because of an extraordinary drought." Then suppose we continue to divert water from Boulder

Dam, in the maximum amount, to irrigation rights. We then could not deny Mexico here guarantee—could we?

Mr. TIPTON. Yes, sir.

Senator MURDOCK. How?

Mr. TIPTON. Senator, you realize—I think you do—that a drought occurs in the upper basin before it can ever occur in the lower basin; and I will say subsequently that it is impossible—it will be impossible if we have the same kind of years we have had for the last hundred years, and the same run-off—for there to be a drought along the main stream in the lower basin due to the terms of the Colorado River compact. But there can be a drought in the upper basin. Long before the time you mentioned, that all the conservation capacity of Boulder Dam must be used for irrigation and there can be no power head provided; long before that time the upper basin will have suffered a very severe drought, and, if you please, sir, that is the reason for the language in this treaty, and I am responsible largely for it.

Senator WILEY. "Extraordinary"?

Mr. TIPTON. "Extraordinary"; that is correct. Now, may I pick up a few points? Then I will come to that.

Senator MURDOCK. I do not see what your explanation is.

Mr. TIPTON. I am going to show you, sir.

Senator MURDOCK. It is a certainty that if the drought occurs, it will occur in the upper basin. Why?

Mr. TIPTON. Because the upper basin furnishes the water.

Senator MURDOCK. That is my very point; and the lower basin stores it against a drought for irrigation purposes above power purposes. But your language in the treaty, that we cannot deplete Mexico's right or decrease it at all until we begin decreasing consumptive uses in the United States wipes out, in my opinion, the distinction between power rights and irrigation rights.

Mr. TIPTON. All right; that is your opinion. We have several points left in the air, but I will go along with you on this one and clear it up and then come back and clear up three or four points I have left unanswered on the question of sliding scale. I will do it in any way the chairman wants it done.

Senator MILLIKIN. Before you get to that, I should like to ask you a few questions, with the Senator's permission.

What facilities built with United States money are on the Colorado River at the present time?

Mr. TIPTON. The Boulder Dam; Parker Dam, which forms Lake Havasu; Imperial Dam. Do you mean on the river itself?

Senator MILLIKIN. Yes.

Mr. TIPTON. Davis Dam was authorized and construction was started and stopped. Those are the works on the main stream at the present time.

Senator MILLIKIN. With those works and with any future works that may be built, does it not necessarily follow that any Mexican water, any water reaching the boundary of Mexico, necessarily by the very fact that water runs downhill will have been processed by United States facilities?

Mr. TIPTON. Yes, sir.

Senator MILLIKIN. So will that not occur whether or not we have a treaty with Mexico?

Mr. TIPTON. It will occur for a great many years, and it is the opinion of many engineers that it will be impossible under the so-called ultimate conditions to prevent even 1,500,000 acre-feet going to Mexico.

Senator MILLIKIN. It will occur, will it not, until the day comes that we have completely utilized the stream in the United States, if we ever come to that day, and assuming the absence of a treaty?

Mr. TIPTON. That is my opinion, sir.

Senator MILLIKIN. And the control will be in Boulder Dam to a greater and greater degree?

Mr. TIPTON. Lake Mead is not of sufficient capacity to regulate surplus under these ultimate conditions. I confirm substantially the statement made by Mr. Elder—that it will require some 60,000,000 acre-feet of storage on the stream fully to equate the flow of the stream. My own estimate is about 56,000,000 acre-feet of storage which is not materially different than Mr. Elder's estimate.

Senator MILLIKIN. Until the time comes when we are able, let us say, in the absence of a treaty, to use all the water in this country, it follows that the water that reaches the Mexican border will necessarily have been processed by our facilities and that neither we nor Mexico can do anything about it; is not that correct?

Mr. TIPTON. That is my opinion, sir.

Senator MILLIKIN. Now, as I understood your testimony, you said that you had two alternatives: One, a sliding scale, which you abandoned, because, had you not abandoned it, it would have required the reciprocal use of the gestapos of the respective nations to keep track of each other?

Mr. TIPTON. You have said it better than I did.

Senator MILLIKIN. For that reason you chose a definite amount?

Mr. TIPTON. That is correct.

Senator MILLIKIN. The testimony has been repeated again and again, has it not, that Mexico is now using 1,800,000 acre-feet?

Mr. TIPTON. That is correct, sir.

Senator MILLIKIN. I do not believe there has been any testimony that Mexico could not expand her use; is that correct?

Mr. TIPTON. I think that there has been testimony, sir, that Mexico could not expand her use or could not even use this amount without the use of United States diversion facilities. I do not agree.

Senator MILLIKIN. Within the last few days have we not had California testimony that some man of public notoriety has purchased 500,000 acres that are now arid and that the scheme that is proposed here would irrigate his lands?

Mr. TIPTON. I did not hear the testimony, but that is what I understand is in the record.

Senator MILLIKIN. I assure you that that is the burden of the record. So from the California view itself there are a half million acres of land that are arid but which, if there is anything to the California thesis so far as it concerns this man of notoriety, will have water from the Colorado River.

Now, you have fixed 1,500,000 acre-feet instead of the present use of 1,800,000 acre-feet?

Mr. TIPTON. That is correct.

Senator MILLIKIN. That stabilizes it permanently, does it?

Mr. TIPTON. Yes, sir.

Senator MILLIKIN. Against possible expanding use by Mexico; is that correct?

Mr. TIPTON. Against Mexico's expanding any right to the use of water; that was the intent of the treaty; yes, sir.

Senator MILLIKIN. Therefore, that guaranteed amount is a consideration which we pay for stability as against an expanding use in Mexico?

Mr. TIPTON. That is right, sir; a quieting of title.

Senator MILLIKIN. Thank you very much.

Senator MURDOCK. Senator Millikin has just referred, has he not, to the purchase by some man named Jenkins in Mexico of a half million acres of land implying, as I understood the questions and your answers, that he is going to get some water for it out of the Colorado River.

Mr. TIPTON. I do not think he implied it; I think he said that California witnesses implied it.

Senator MURDOCK. It occurs to me—and does it not occur to you, Mr. Tipton?—that that man Jenkins knows that this treaty is now before the United States Senate for ratification. Would you not assume that?

Mr. TIPTON. I would assume that; certainly.

Senator MURDOCK. Would you not assume that he has the idea that the treaty is going to be ratified?

Mr. TIPTON. I do not know, sir.

Senator MURDOCK. And that because of the fact that it may probably be ratified, he is interested in getting that land with the idea that if the treaty is ratified there will be water for the land?

Mr. TIPTON. No.

Senator MURDOCK. That is not a correct conclusion? That is all.

Mr. TIPTON. I would say that Mr. Jenkins would be in a better position if the treaty were not ratified.

Senator MURDOCK. But he is buying the land while the treaty is now being considered for ratification.

Senator McFARLAND. If your interpretation of the treaty is correct, and the limitation is 1,500,000 acre-feet, he will never be able to irrigate his lands, will he?

Mr. TIPTON. Never on a firm and permanent basis. That is my opinion, unless other lands are abandoned in Mexico. He apparently is well known in Mexico, and what he might do in Mexico to cause other lands to be abandoned, I do not know.

Senator WILEY. With or without the treaty, the water that has been testified to, in reply to Senator Millikin, goes downstream?

Mr. TIPTON. That is correct.

Senator WILEY. If there is something over 1,500,000 acre-feet that is available, we do not guarantee more than that amount?

Mr. TIPTON. That is right.

Senator WILEY. But if it is available, he may use it with or without the treaty?

Mr. TIPTON. That is correct, I think; but I do not think the treaty gives him any protection in his uses. I think the treaty, unless he does go on to lands that are at present irrigated, would preclude him from gaining any permanent right to the use of the water.

Senator MCFARLAND. That is what I had reference to.

Mr. Tipton. Nobody can stop his use of the water for many years; so it is quite necessary, under those circumstances, I would think, at this time, to limit forever Mexico's right to the use of the water to a certain fixed amount. We believe 1,500,000 acre-feet is an equitable amount.

Senator WHITE (presiding). If there are no further questions, will the witness proceed with his statement?

Mr. Tipton. There are three or four things to be cleared up. One is the question of extraordinary drought, which is fresh in all our minds, that Senator Murdock brought out.

I want to indicate why it is based on a reduction of consumptive use. I must refer to the 1906 treaty in order to make my point clear. The 1906 treaty, if you will remember, has the same language as this does, except that in the 1906 treaty, as pointed out by Senator Downey, there is used "delivery" or "diversion," or some such term, whereas here we use the term "consumptive use."

I am familiar with the operation of the 1906 treaty. The "extraordinary drought" provision has been invoked against Mexico, but the measure of the reduction in uses has been the reduction in releases from Elephant Butte Reservoir for the use of lands below Elephant Butte Reservoir. In the meantime, almost every year during these periods which I consider periods of extraordinary drought in the region above the Elephant Butte Reservoir there is a severe curtailment of uses, but under the 1906 treaty, this does not constitute a reason for reduction of deliveries to Mexico. Mexico's water is not reduced on account of the very materially reduced consumptive use in Colorado on the upper Rio Grande.

In the United States, under the Elephant Butte Reservoir there are only 154,000 acres irrigated. In Colorado there are 600,000 acres irrigated. Those 600,000 acres can suffer severe water shortages due to drought without its having any effect on the delivery of water to Mexico from the Elephant Butte Reservoir.

Now, we come to this situation: In our discussions with Mexico on the question of the allocation of water, when we were talking about a sliding scale the criterion discussed was uses in the lower basin. When we came to the extraordinary-drought provision—again I say I am largely responsible for this due to my knowledge of the situation on the upper Rio Grande—I brought out as plainly as I could that we were talking about the Colorado River Basin in the United States and not the lower basin.

So when there is curtailment of use, it does not mean just curtailment of use below Boulder Dam; it means curtailment of use in the entire Colorado River Basin. I do not believe there could be used as a measure the curtailment of diversion to canals. At the moment, I would say there are probably 2,000 or 3,000 canals in the upper basin. As time goes on, there will be many more.

Would it be practicable at all to compile records of the diversions of that multiplicity of canals and use that as a measure of curtailment of use? My answer is, "No"; and I pointed that out in the negotiations.

The Colorado River compact provides for a certain delivery at Lee Ferry. We in the upper basin are obligated not to deplete the flow of

the stream below a certain amount. If the time ever comes when we have to curtail our uses, not our diversions—it will be a curtailment of diversions first—but to curtail our consumptive uses in order to make delivery at Lee Ferry, that will be known. We will have to curtail uses, and at that point Mexico would be curtailed when we in the upper basin must curtail our uses—consumptive uses—in order that water shall be delivered to the lower basin.

I state further, sir, that we will suffer droughts in the upper basin. I state further, sir, that on the main stream in the lower basin, so far as the 16,000,000 acre-feet are concerned, or that portion it is apportioned to the lower basin, there will never be a drought because of the obligation of the upper basin under the compact. So there will be invoked against Mexico the extraordinary drought provision before there could ever be any curtailment of uses in the lower basin. That is the reason the treaty reads as it does and brings in the consumptive-uses idea.

Senator MURDOCK. If I have followed you, then, you are going to determine when Mexico's rights are to be decreased by the flow of the river at Lee Ferry?

Mr. TIPTON. When the upper basin—

Senator MURDOCK. That can be answered yes or no, can it not?

Mr. TIPTON. It cannot; no, sir. It cannot be answered in that way.

Senator MURDOCK. You are not going to measure diversions in the upper basin. You can that is impossible?

Mr. TIPTON. That is right. When the upper basin must curtail its uses in order that it may be able to deliver 75,000,000 acre-feet at Lee Ferry in a 10-year period, that is not taking the flow at Lee Ferry as a criterion; it is taking as a criterion what the upper basin must do in curtailing its uses.

Senator MURDOCK. Where are you going to measure the water in order to determine whether the United States has a right to decrease the flow of water to Mexico under the guarantee?

Mr. TIPTON. The United States will never have a right to decrease the flow of the water in any State; that will be done by the States themselves. We are getting into considerable detail, Senator, but I can explain to you how it will work in Colorado.

Senator MURDOCK. You have stated what a terrific barrier it would be to measure diversions, and I agree with you. Now, I ask you the simple question: How are you going to ascertain this very simple fact as you have written it into the treaty? How are you going to do it?

Mr. TIPTON. I would assume it can be done under the compact regardless of the treaty. We assume that when the compact provisions go into effect, and the upper basin must curtail uses to make its delivery at Lee Ferry that would be more or less *prima facie* evidence of an extraordinary drought. If it can be done under the compact, it can be done under the treaty. May I explain how it does operate in Colorado?

Senator MURDOCK. You have devoted a lot of time to the simplicity of the thing, so, under the language you have put into the treaty, I should like to have you explain to the committee—and I think they are interested—how you are going to do it throughout the Colorado River Basin.

Mr. TIPTON. I repeat: If it can be done under the compact—in other words, we are tying it into the compact——

Senator MURDOCK. I beg your pardon, but I am asking you this question. We are not confronted with the compact here. This committee, as I understand it, is confronted with a proposed treaty, in which you, as an engineer, have played a very important part in the negotiating.

You have explained to us that you have eliminated a rather intricate proposition, which would have been involved had the formula that you eliminated been used, and you put it into simple language.

Now, under the treaty, Mr. Tipton, will you kindly explain just how you will arrive at and ascertain when you can decrease the water to Mexico?

Mr. TIPTON. In my opinion, sir, my interpretation of one condition when the "extraordinary drought" provision of the treaty would be invoked would be when the upper basin would be required to curtail its uses in order to deliver its 75,000,000 acre-feet at Lee Ferry under the compact.

Senator MURDOCK. Is that your definition of "extraordinary drought"?

Mr. TIPTON. That would be my personal definition of one condition when the provision would be invoked.

Senator MURDOCK. I think it is important to get that straight. Now, if I have followed you, whenever the upper basin has to curtail to any degree its beneficial, consumptive use in order to supply the lower basin with the 75,000,000 acre-feet over a 10-year period, that constitutes, in your opinion, an extraordinary drought under the treaty?

Mr. TIPTON. That is correct, sir. That certainly would constitute an extraordinary drought, in my opinion.

Senator MURDOCK. That is what I mean.

Senator WILEY. Putting it another way, I gather that you mean that when over a 10-year period the accumulation of water in the various reservoirs that have been built up, irrespective of whether or not, as a matter of fact, there is any drought in the sense of your not getting rain, is such that you cannot fulfill the terms of the compact, then the idea of extraordinary drought comes into being?

Mr. TIPTON. That is my interpretation, sir.

Senator WILEY. That is what I got from what you said.

Mr. TIPTON. That is my interpretation.

Senator WILEY. In other words, the term "extraordinary drought" does not refer to weather conditions; it refers to whether or not there is capability in the reservoir system to perform the obligations of the compact?

Mr. TIPTON. That would be my interpretation.

Senator WILEY. Was that the understanding between the negotiators?

Mr. TIPTON. We did not go into that much detail. I think, sir, the treaty speaks for itself on that, because it is very plain that we must have a reduction in consumptive uses in the United States before this extraordinary drought provision would become effective. I think that is plain, sir. So I think what you say is correct.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

Mr. TIPTON. I am trying to put the interpretation of what an extraordinary drought would be on a simple basis. You must understand

that in the upper basin there will be large areas that will suffer shortages of water in many years on account of the lack of reservoir facilities to take care of the situation. They are too high up. There will be years when they will get the full supply. We have many large areas up there that will be in the same condition as the Salt River Valley, as described yesterday by Mr. Scott.

Now, I do not believe that the United States could claim that only an annual shortage of water for those lands would constitute an extraordinary drought, even though there was an actual shortage of water, which there will be in many, many years.

Senator WHITE (presiding). The treaty itself does not define the term "extraordinary drought," does it?

Mr. TIPTON. No; that is subject to interpretation.

Senator WHITE. So that question is left to interpretation?

Mr. TIPTON. That is correct, sir.

Senator WHITE. Anyone has a right to his view as to what it means?

Mr. TIPTON. That is right. I am giving my interpretation. If you believe, sir, the premise that Senator Murdock has stated, and that Senator Wiley has stated, that so far as the upper basin is concerned, these large reservoirs we may have to have on the stream, which will permit us to make our compact deliveries the usable water in these reservoirs, must begin to be depleted and there is actual curtailment of our use of water to make our deliveries to Lee Ferry, then I would say that would be an extraordinary drought. That may be an extreme view. I mean someone may assume that is an extreme view—that you could call an extraordinary drought something that could occur in that way. But I do not think so.

Senator WHITE. Was there any effort at the time the treaty was negotiated by the negotiators—any statement or effort by them—to determine what is meant by "extraordinary drought"?

Mr. TIPTON. No, sir.

Senator WHITE. It was left wide open?

Mr. TIPTON. It was left open. It was not discussed at great length, except the point I brought out, that the criterion of reduction in use in the United States should apply not only to the lower basin, as it does in the upper Rio Grande treaty, but that it should apply throughout the basin.

Senator MILLIKIN. Mr. Tipton, I think these questions are very, very important, and I think I detected an inconsistency in your answers. As I understood the earlier part of your testimony, the extraordinary drought would be indicated, summarily stated, by extraordinary depletion of reservoir capacity?

Mr. TIPTON. No; I did not say that.

Senator MILLIKIN. You did not say that?

Mr. TIPTON. No.

Senator MILLIKIN. You stated that there would actually have to be a decrease in consumptive use by the man who puts water on the land?

Mr. TIPTON. The treaty says so.

Senator MILLIKIN. Before there could be the condition of extraordinary drought?

Mr. TIPTON. That is my opinion.

Senator MILLIKIN. Is that independent of reservoir capacity?

Mr. TIPTON. The upper reservoirs would have to begin to be depleted. That is my opinion or my interpretation.

Senator MILLIKIN. I want to face right up to this. I regard it as very important. Let us get right at it. Let us assume that in the upper basin we have a very light snowfall and that there is extraordinary low stream flow in the Colorado River in the upper basin. Let us assume that at that time we have full reservoirs. Is that extraordinary drought under the treaty?

Mr. TIPTON. I think, if due to drought, we had a substantial curtailment of uses in the upper basin above the main stream reservoirs, that this provision could be invoked. What I meant to say was that the compact provides for deliveries by the upper basin to the lower basin of a certain amount of water. If curtailment of use and commencement of the depletion of upper main stream storage becomes necessary to carry out that obligation, that certainly would indicate an extraordinary drought.

When our upper areas suffer a substantial curtailment of use to supply the lower basin, because the water is not there, since these upper areas do not have long-time carry-over reservoirs, and cannot have them because there are no reservoir sites sufficiently large to have long-time hold-over, it would be possible to interpret that as extraordinary drought.

Senator MILLIKIN. Then, so far you have said that independent of what is in the reservoirs, if there is a decrease in beneficial use in the upper basin, that might be construed as extraordinary drought?

Mr. TIPTON. It could be.

Senator MILLIKIN. Let us take it the other way around. Let us assume that there is no current extraordinary drought, so far as the application of water on the land is concerned, in the upper basin, but that we are emptying our reservoirs. Might that be construed as an extraordinary drought?

Mr. TIPTON. Not in my opinion, sir. I think the treaty itself has two elements involved, in my opinion, before this could come into effect. One is extraordinary drought; and reduction in consumptive uses in the United States. In other words, the very measure of the reduction of the use of water by Mexico is the reduction in consumptive uses in the United States and the commencement of withdrawal of water from the main stream reservoirs. The depletion of capacity is not reduction in consumptive use.

Senator MILLIKIN. Would you answer my question—that even though there might be no reduction in the use of water in the upper basin, and even though we might be emptying our reservoirs, that might not be construed to be an extraordinary drought?

Mr. TIPTON. Oh, yes. If we are actually curtailing—if we are actually consuming less water on our upper areas in the upper basin than we ordinarily would—I say “ordinarily would”—that could be construed as an extraordinary drought.

Senator MILLIKIN. Independent of the condition of the reservoir?

Mr. TIPTON. It could be construed that way.

Senator MILLIKIN. And vice versa?

Mr. TIPTON. It could be construed that way.

Senator MILLIKIN. Is there any precedent in the construction of that term in the old Mexican treaty, where it was also used?

Mr. TIPTON. Do you mean during the negotiations?

Senator MILLIKIN. No; I am speaking generally. You took that phrase out of the old Mexican treaty that we have on the Rio Grande?

Mr. TIPTON. That is correct.

Senator MILLIKIN. Is there any precedent in the use of that phrase in the Rio Grande treaty?

Mr. TIPTON. Yes; that provision has been invoked on the Rio Grande, but there was that defect in the Rio Grande treaty in that the measure of reduction of deliveries to Mexico is only the amount of water released from Elephant Butte Reservoir. Here in this treaty we are extending the measure clear up to the headwaters of the upper basin.

Senator MILLIKIN. Now, as I said before, I want to face right up to this, because I regard it as very important to the upper-basin States. Let us assume a situation where we in the upper-basin States are actually decreasing our consumptive use of water on our lands. And let me backtrack at this moment to say that the reason—to remind you that the reason—we did not go into a sliding scale instead of a fixed amount was that we did not want the gestapos operating in each other's country. How, under these circumstances, will we prevent Mexico from coming up and checking on what we are doing with our consumptive uses in the upper basin?

Mr. TIPTON. I think they might ask the question; they might raise the question.

Senator MILLIKIN. But they would not have any right to check on us?

Mr. TIPTON. I do not know, sir.

Senator WILEY. Not unless the treaty gave them the right.

Mr. TIPTON. I do not think the treaty gives them the right. I do not think they would raise the question.

Senator MILLIKIN. I may say that I am not satisfied with that part of the treaty.

Mr. TIPTON. I think we are overemphasizing that part of the treaty. To my mind, it means little to the United States, because the amount of water allocated to Mexico out of the total water supply is such a small percentage; we will say that it is 8 percent.

Now, let us assume that there is curtailment of use in the United States—a reduction in consumptive use—of 10 percent. Let us take, for example, the water at present allocated under the compact for beneficial consumptive use, 1,600,000 acre-feet. That would be a curtailment of use in the United States of 1,600,000 acre-feet. Now, the reduction of deliveries of water to Mexico would be something less than 150,000 acre-feet. So we would gain, by the invoking of this provision, 150,000 acre-feet to compensate for a reduction in our uses of 1,600,000 acre-feet. So I do not think the matter is too important.

Senator MILLIKIN. I should like to say to Mr. Tipton that I understand thoroughly the benefits of it if we can interpret it—if we know what it means and how it will work. I hope that during the next recess he will give some further thought to it, because I believe at this moment it is far from clear just how and when it will work and who decides how and when it should work.

Senator LA FOLLETTE. Mr. Tipton, I am confused. I think probably it is my own fault. I understood your answers to Senator Murdock's questions to be somewhat different from your answers to similar questions which were propounded by Senator Millikin.

In other words, I got the impression from your answers to Senator Murdock's questions that there would have to be a curtailment of

consumptive use before the drought clause could be invoked by the United States.

Mr. TIPTON. That is correct, sir.

Senator LA FOLLETTE. Then, when Senator Millikin began asking you questions about whether the depletion of reservoir capacity could be taken into consideration regardless of whether there had been any diminution in consumptive use, I was confused as to your answers. Will you straighten that out?

Mr. TIPTON. Yes, sir; I shall. Senator Milliken asked two questions. His first question was, as I understood it—and I hope the Senator will correct me if I am wrong—if there was no curtailment in the consumptive uses, but there was a depletion of reservoir capacity, whether or not we could invoke this provision. I said I did not think so.

His second question was this—that if, accompanying the commencement of depletion of water in main stream storage, there also was a curtailment of use—actual curtailment of consumptive use—by virtue of a lack of water in the upper basin above our main stream reservoirs, whether or not under that condition this provision could be invoked. I said that it could be so interpreted.

Senator LA FOLLETTE. But you were not certain?

Mr. TIPTON. I was not certain.

Senator LA FOLLETTE. One other thing that I got from this series of questions was the fact that in the negotiation of this treaty, in which you participated, as I understand it, there was not very much discussion of this provision with the Mexican negotiators. I came to the conclusion, therefore—and if I am wrong, I wish to be corrected—that this particular language in the treaty—this drought-clause language—was arrived at without a full meeting of the minds of the negotiators as to what its actual provisions involved.

Mr. TIPTON. I think, Senator, that that resulted from this fact—

Senator LA FOLLETTE. Is that true? Am I correct in that deduction?

Mr. TIPTON. You are substantially correct, sir.

Senator LA FOLLETTE. Then, I might just say that it seems rather strange to me—I have never participated in the negotiation of a treaty—because, as I see it, regardless of your statement that you do not think it is very important, this is the one clause in the treaty which could result in any diminution of water delivered to Mexico under the guaranty and that, therefore, if, despite your conclusion that we will not face that situation, it should occur, it would be the one clause in the treaty about which more controversy, more difficulty, and more friction between the two nations might arise than was contemplated in the enforcement of the sliding-scale provision. I cannot quite understand, frankly, why there was not a full meeting of the minds of the negotiators, or at least an understanding between those who did negotiate it on the part of the respective countries as to exactly how this drought clause would operate.

Mr. TIPTON. May I explain, Senator, why there probably was not fuller discussion of this particular provision?

Senator LA FOLLETTE. Yes.

Mr. TIPTON. The 1906 treaty has been in operation for many years. This provision is in the 1906 treaty. It has been operative and en-

forced there, and I think it was just commonly accepted that it meant about the same thing, except that we were extending it to the upper reaches of the river.

It may be entirely possible that there should have been fuller discussion in order to define, first, "extraordinary drought"; and to provide means, second, for a determination of the reduction in consumptive uses. I will not say that that might not have been something that should have been gone into more fully, but the reason it was not was on account of the precedent that had been set over a long period of years by a treaty having a similar provision.

Senator LA FOLLETTE. Is there a full agreement and meeting of the minds on the part of the American negotiators of this treaty as to exactly how this clause will operate, because I have heard you interpolate in many of your answers, "in my personal opinion," or words to that general effect?

Mr. TIPTON. I will answer you, Senator, in this way: This has not been discussed by the American negotiators in the detail it has been discussed here.

Senator LA FOLLETTE. Do you mean that the language was proposed and agreed to without the American negotiators having an understanding of exactly how it would operate, if and when it was invoked?

Mr. TIPTON. Not in the detail it has been discussed here.

Senator LA FOLLETTE. I did not ask you about the detail, but was it discussed sufficiently to the point where you knew exactly how this was going to be interpreted from the standpoint of the negotiators of the treaty for the United States?

Mr. TIPTON. I cannot speak—it was discussed; yes, sir.

Senator LA FOLLETTE. Was there any difference of opinion among the American negotiators as to how it would be interpreted and how it would be invoked and how it would be operated if it was invoked?

Mr. TIPTON. I hesitate to say that there was a consensus of the negotiators that it would be invoked when curtailment in the upper basin was caused in order that the upper basin might make its delivery at Lee Ferry. That was discussed as one criterion. I would hesitate to say, Senator, that there was a consensus of the American negotiators on that basis, and I would not say there was not consensus. That condition would be a most unfavorable interpretation to the United States, and, in my opinion—my personal opinion—that would be a measure which could not be controverted.

Senator LA FOLLETTE. I understand that that would be one criterion, one way to measure it; but I must say that it does strike me as rather strange that this provision got into the treaty without a full understanding on the part of the United States negotiators as to exactly what it meant, how it would operate, and when it would be invoked; and, secondly, that that understanding on the part of the United States negotiators was not conveyed to, fully understood by, and threshed out with those negotiating the treaty on the part of Mexico.

Mr. TIPTON. Yes; I see your point, sir. You must understand that during the negotiations, which went on over a long period of time, obviously, the main matter was the water—the amount of water and the condition of delivery. That was discussed day after day very arduously.

The extraordinary drought provision was brought in, as I say, from the 1906 treaty, and we indicated that it must be so written as to include the upper basin.

That may not be a good explanation of why this was not fully discussed, but the items of importance which required the greatest length of time between the negotiators were the quantity of water, the acceptance by Mexico of return flow, and the quality of water. This drought provision, as I say, was brought in from the old treaty without any full discussion on it.

Senator LA FOLLETTE. Was any report made by the United States negotiators to the State Department outlining the provisions of the treaty and the understanding that we had?

Mr. TIPTON. If there was, Senator, I did not participate in such a report. I assume undoubtedly that Mr. Lawson made such a report to the State Department. You must also understand that there were present most of the time during the negotiations at least two, sometimes three, members of the State Department. One of the members kept a fairly complete report of what happened.

Senator LA FOLLETTE. As one of the negotiators, if there was such a report made to the Department, you never saw it and do not know that it was made?

Mr. TIPTON. I could not say of my own personal knowledge.

Senator JOHNSON of California. You were one of the negotiators from the beginning?

Mr. TIPTON. Not from the beginning. I was one of the negotiators after the basin States—five of them—had approved a formula submitted by the State Department, and after the actual negotiations started at El Paso on September 6, 1943.

Senator JOHNSON of California. For goodness sake. You had representatives of all parties in interest, did you not, save the United States?

Mr. TIPTON. We had two parties in interest. One was Mexico and one was the United States.

Senator JOHNSON of California. Who represented the United States?

Mr. TIPTON. All of the ones who were negotiating in behalf of the United States.

Senator JOHNSON of California. Who were they?

Mr. TIPTON. Mr. Lawrence Duggan, of the State Department; Mr. Joseph McGurk, from the State Department; Dr. Charles Timm, of the State Department.

Senator WILEY. Were they in constant attendance?

Mr. TIPTON. At least two of them. Mr. Duggan was not there at all times, but I think the other two were. Mr. Lawson took the lead in the negotiations. There were his assistants—engineering assistants and legal assistants—Mr. Ainsworth, Mr. Lowry, and myself on the engineering side, and Mr. Clayton on the legal side. All those gentlemen were representing the United States.

Senator JOHNSON of California. All of them were representing the United States?

Mr. TIPTON. All of them were representing the United States in the negotiations.

Senator JOHNSON of California. Was there issued to you before the negotiations any certificate of authority that you should act on behalf of the United States?

Mr. TIPTON. I think that was assumed. The State Department is charged with that function.

Mr. JOHNSON of California. The State Department was charged with that function, in your opinion?

Mr. TIPTON. That is a legal question. I assume the State Department is.

Senator JOHNSON of California. Well, you can assume that. I would unite with you in the assumption. What I am getting at is whether there was some individual who was not employed by the State Department or some individual who represented the United States alone, and I wanted to know whether or not the individual was a participator in the negotiations.

Mr. TIPTON. None except the ones I mentioned; and I assumed at all times that the State Department was representing the United States.

Senator JOHNSON of California. Well, it would be an appropriate assumption, of course, that they were representing the United States.

Mr. TIPTON. They certainly were not representing Mexico.

Senator JOHNSON of California. But I may be confused or confounded by the testimony I have listened to here with great interest. I am trying to find out, if I can, who particularly represented the United States during that time.

Mr. TIPTON. I cannot make my answer any more complete, sir, than I have.

Senator JOHNSON of California. Can you mention any individual who was devoting himself exclusively to the interests of the United States?

Mr. TIPTON. I think I mentioned about six or seven who were so devoting themselves.

Senator JOHNSON of California. That were exclusively engaged in that?

Mr. TIPTON. I do not think that any of those gentlemen had anything else in mind except the interests of the United States.

Senator JOHNSON of California. All right. That answers the question in part. Now, did anybody speak up during those negotiations in behalf of the United States?

Mr. TIPTON. There were quite a number of those negotiators whom I have mentioned who spoke up in no uncertain terms day after day in behalf of the United States.

Senator JOHNSON of California. All right. Who were they?

Mr. TIPTON. Mr. Lawson.

Senator JOHNSON of California. You do not mean the gentleman who preceded you, do you?

Mr. TIPTON. There have been several who preceded me in my testimony here. Do you mean who preceded me when I first came on here? Yes, sir; the International Boundary Commissioner.

Senator JOHNSON of California. He was an employee of the office of the Secretary of State?

Mr. TIPTON. Yes, sir; that represented the United States.

Senator JOHNSON of California. Who else was there that spoke up, that was in charge of any part of the negotiations for the United States?

Mr. TIPTON. Mr. Duggan, on occasion.

Senator JOHNSON of California. Who is he?

Mr. TIPTON. Well, I do not remember what his title was at that time. His division was reorganized, with new titles given. I think he was chief of Latin-American affairs.

Senator JOHNSON of California. He had just been appointed?

Mr. TIPTON. No; he had been in the Department for some time. His old title, when he started was, I think, political adviser on Latin-American affairs. On occasion it was necessary for him to speak up.

You can rest assured, Senator Johnson, that for the 6 weeks' period of gruelling negotiations, day after day, those representing the United States did not hesitate to speak up, and speak up in no uncertain terms; otherwise there would have been a different treaty than there is.

Senator JOHNSON of California. I am very glad to hear you say that. Now, were any of those who thus spoke up so warmly and enthusiastically empowered to represent alone the United States?

Mr. TIPTON. Well, I do not quite understand the question, sir. The speaking up in the terms that I mentioned is reflected in the treaty. The treaty is very much different from the demands that were made by Mexico—entirely different. It is only different by virtue of the fact that these gentlemen did speak up. I do not quite understand the question as to by whose authority they spoke up.

Senator JOHNSON of California. The Secretary of State.

Mr. TIPTON. I think that is true, the Secretary of State.

Senator JOHNSON of California. Well, did not the people from the Secretary of State's office speak up all the time for the United States?

Mr. TIPTON. These three gentlemen I mentioned were there. The active negotiations were carried on by others, but when it was necessary they did speak up.

Senator JOHNSON of California. Did you observe anybody there representing the Boulder Dam?

Mr. TIPTON. I think that every man there was representing the Boulder Dam, insofar as it is an asset to the United States. There is no question about that, sir.

Senator JOHNSON of California. Your qualification—

Mr. TIPTON. I will eliminate the qualification. I meant this, sir—I did not mean to qualify it in that manner—that everyone there recognized that the Boulder Dam was a very material asset to the United States and a very material asset to the water users on the river.

Senator JOHNSON of California. And were all of you anxious to preserve the Boulder Dam in its entirety?

Mr. TIPTON. Without question, sir.

Senator JOHNSON of California. Without question?

Mr. TIPTON. Yes.

Senator JOHNSON of California. Were any other persons than employees of the Department of State negotiators in the obtaining of that contract or that treaty?

Mr. TIPTON. The negotiating of the treaty, sir?

Senator JOHNSON of California. Yes.

Mr. TIPTON. No, sir. From time to time officials of the Bureau of Reclamation were consulted about certain matters, which I shall go into when I get back to my testimony, but actually present during the negotiations there was no one except those employed by the State Department or the International Boundary Commission.

I shall speak for myself, Senator. I come from the interior. My interest, of course, naturally is in the basin—Colorado first, upper basin, entire basin, United States—and I did not hesitate to speak up many, many times.

Senator JOHNSON of California. That is to your credit, and I mark you down with a great credit mark for that.

Now, how did you get along in your negotiations? Were certain people spokesmen for all the rest of them?

Mr. TIPTON. Not necessarily so. The discussions were carried on, after negotiations got under way, back and forth across the table. Points were discussed, and discussed thoroughly, by anyone who could contribute anything.

Mr. Lawson did act as the nominal head of the American negotiators; Mr. Fernandez MacGregor, who is Mexican Commissioner on the Boundary Commission, was nominal head—I will change the words “nominal head” to “active head.”

The nominal heads were the representatives of the State Departments; but the active heads of the negotiators were Mr. Lawson for the United States and Mr. Fernandez MacGregor for Mexico.

Senator JOHNSON of California. Well, they spoke up whenever they felt the urge?

Mr. TIPTON. Anyone spoke up whenever he felt the urge, sir. There was no restriction whatsoever.

Senator JOHNSON of California. All of the negotiators were employees of the State Department?

Mr. TIPTON. That is correct, sir.

Senator JOHNSON of California. That is all.

Senator LA FOLLETTE. I do not wish to belabor this drought clause too much, but you stated that one reason why there was not very much discussion of the clause was that it was lifted from the 1906 treaty. My understanding is, however, that the phraseology is not exactly the same.

Mr. TIPTON. Yes.

Senator LA FOLLETTE. And that you have introduced into the clause in the pending treaty the conception of consumptive use.

Mr. TIPTON. That is correct, sir. Were you here this morning when I explained the reason for that? I am responsible for that.

Senator LA FOLLETTE. I was here when you said that, but I wanted the record to show clearly that that was a new conception.

Mr. TIPTON. That is correct; I said so.

Senator LA FOLLETTE. That adds to my feeling and wonderment as to why there was not a more complete meeting of the minds of the United States negotiators and those of Mexico, especially since you were introducing this new concept.

Mr. TIPTON. Yes. I can understand that. All I can say is that the matter was not fully discussed. I do not think the difficulties that are mentioned here were visualized at any time, and I do not

visualize those difficulties now; although I cannot say categorically, Senator, that those difficulties might not be real; I can only say that they were not visualized. It might be that there should have been more discussion; I do not know.

Senator MCFARLAND. I should like to state one set of facts and ask you how the extraordinary drought provisions would work in regard to them.

You have 7,500,000 acre-feet of water to the lower basin?

Mr. TIPTON. That is correct.

Senator MCFARLAND. You have contracts covering that 7,500,000 acre-feet?

Mr. TIPTON. That is correct.

Senator MCFARLAND. Add to that the 1,500,000 acre-feet to Mexico, and that makes a total of 9,000,000 acre-feet of water.

Mr. TIPTON. That is right.

Senator MCFARLAND. Let us suppose that the present reservoirs, if Davis Dam were built, and with Boulder Dam and Lake Havasu, had in them only 6,000,000 acre-feet of water at the beginning of the irrigation season. Under that you have in the United States contracts for the stored water, one of 7,500,000 and one of 1,500,000 acre-feet.

I would presume that it would be the duty of the Department of the Interior to notify the contracting parties that their water would be reduced accordingly during that season. They would let out only so much water for them at the beginning of the season.

Would that be a sufficient reduction in the delivery of water for consumptive use in the United States to notify Mexico that she would be reduced proportionately?

Mr. TIPTON. Yes; so that is the reason I did not go into the lower basin situation.

The CHAIRMAN. May I ask a question on this consumptive use—if it hasn't already been consumed.

Senator WILEY. The use, or the water?

The CHAIRMAN. Let me ask this question. Under the treaty there must first be an unusual drought or "extraordinary drought," I believe.

Mr. TIPTON. That is correct, Senator.

The CHAIRMAN. After they have had an extraordinary drought there must be a reduction of consumptive uses; is that right?

Mr. TIPTON. That is right, sir.

The CHAIRMAN. Now, let us assume this kind of condition. We will assume you have storage in the upper basin, a lot of dams, reservoirs, and so on; now if those dams or reservoirs are called upon to discharge by reason of drought, whether an "extraordinary drought" or whatever kind of drought it is, with more than the usual amount of water, wouldn't that almost inevitably presuppose the existence of a drought, because in the absence of a drought the rains would continue to fall and those reservoirs would be constantly augmented, would they not?

Mr. TIPTON. But, Senator, there must be this second criterion, that there must be reduction in consumptive uses in the United States.

The CHAIRMAN. Exactly; but I am coming to that. There must be a reduction in the consumptive uses?

Mr. TIPTON. That is correct, sir.

The CHAIRMAN. But, as long as they had sufficient water in the reservoirs not to reduce consumptive uses, it would not apply?

Mr. TIPTON. It would not apply; but it would not apply until there was a reduction or an imminent reduction in consumptive use.* I do not think a reduction in consumptive use has to occur in the one year before this provision would be invoked. In other words, the reduction can be concurrently.

The CHAIRMAN. I understand.

Senator MURDOCK. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MURDOCK. Assuming, Mr. Tipton, as you have assumed, that the upper basin has to curtail its consumptive use very materially in order to meet its obligation to the lower basin, of 75,000,000 acre-feet over the 10-year period. Would that be, in your opinion, an extraordinary drought which would justify the United States in cutting the guaranty to Mexico?

Mr. TIPTON. I have said that several times, sir.

Senator MURDOCK. I wanted to clear that up. Now, each year is the end, is it not, of a 10-year period under the compact?

Mr. TIPTON. That is correct.

Senator MURDOCK. You are familiar with what happened to the Colorado River in the year 1934?

Mr. TIPTON. I am sir.

Senator MURDOCK. Would you consider that year an extraordinary drought?

Mr. TIPTON. Yes, I would.

Senator MURDOCK. But, nevertheless, the fact that we had a repetition of the year 1934, that could not be considered as an extraordinary drought as affecting the guaranty to Mexico unless consumptive use in the United States was decreased?

Mr. TIPTON. That is correct, sir.

Senator MURDOCK. Now, we take the next step that I want to come to, and that is this—and it seems to me to be a most important question in connection with this drought situation. Notwithstanding the fact that the United States, let us say, has spent a billion or two billion dollars in conservation projects, and a year like 1934 recurs; it is prudent in the use of our water, let us say, in the United States, to shut down our dams tightly so that no water flows through, so that we do not have to curtail irrigation uses because of our storage capacity. Now, if just such a thing happened as that, if we did not curtail our own consumptive uses, in the United States, it would mean, would it not, that we would have to continue, notwithstanding the extraordinary years similar to 1934, the flow of water to Mexico to the full amount?

Mr. TIPTON. That is correct, sir. May I, Mr. Chairman, now make a statement in that regard? We are talking about the present uses in Mexico. If this treaty is ratified, it would recognize on the part of the United States a right by Mexico to use 1,500,000 acre-feet. Now, I want to make this point plain. We are speaking of present-day conditions, right today; and I want you to get this. Davis Dam has been authorized for construction by this Congress. I shall read a part of the authorization act. It appears in House Document 186 of the Seventy-seventh Congress, first session. In that authorization the following statements are made:

The Bullshead Dam project combines multiple purposes for a maximum degree of conservation of waters of the Colorado River—

Senator McFARLAND. That is the Davis Dam?

Mr. TIPTON. That is the Davis Dam, forming Bullshead Reservoir.

flood control, river regulation for irrigation, for municipal water supply, and for metering the water which may be passed downstream to use beyond the boundary of the United States, power development, recreation, silt protection, wildlife, and related purposes.

Then I am quoting from another part of the act:

When the waters of the Colorado River are apportioned between the United States and Mexico by international agreement, Bullshead Dam will serve an important function of providing that fine degree of control needed in effect to meter out the water in accordance with the treaty or agreement. This potential future use has been taken into consideration and is a motivating factor in proposals to build the project, though no costs have been allocated to it.

Now, I think that was back in 1941. I do not remember when the Seventy-seventh Congress sat. My testimony will show at the proper time that during the year that you mention, 1934, it would require, after our uses in the United States are satisfied as of the present time, 673,000 acre-feet of the capacity of Bullshead Reservoir, formerly Davis Dam, without any regard to Boulder at all, to supply Mexico with the amount of water allocated under this treaty. In other words, you could eliminate Boulder Dam from the river entirely so far as Mexico is concerned—put the river back to natural-flow conditions—and satisfy the uses that are being made in the United States of water as of the present time; and by means of the dam and reservoir already authorized by this Congress for this specific purpose, there could be supplied Mexico her full 1,500,000 acre-feet, by the use of only 673,000 acre-feet of its capacity in that lowest year of record, without any other reservoirs, whatsoever.

Throughout the period 1902–1940 the only other year when there would have been a comparable use of capacity would have been 1902, when 432,000 acre-feet of Bullshead Reservoir capacity would have been required; the next highest would have been 228,000 acre-feet. For many years Mexico could have been supplied by the use of none of the capacity of Bullshead Reservoir and without Boulder.

Senator MURDOCK. But do we not come right back to the proposition, Mr. Tipton, that I mentioned before, that every dollar that is spent in the United States, including those that have already been spent, under the language of the treaty, are just as much an insurance of the guaranty to Mexico as they are to our own users?

Mr. TIPTON. I think that is true, except that I—

Senator MURDOCK. Whether that is right or wrong, I do not say; but that is the fact?

Mr. TIPTON. I prefer, Senator, to say that it is a protection to the United States, if we ratify this treaty. In other words, if we ratify this treaty we are saying to Mexico, "Your equitable share in the flow of this stream is 1,500,000 acre-feet as of today." Now, in order that we may develop our future uses and not interfere with the obligation to deliver this water which at present is being used, we must build storage reservoirs; we must build them in that case in order to equate the flow of the stream; so I prefer to say that the storage reservoirs are for the benefit of the United States.

Senator MURDOCK. I understand your position.

Mr. TIPTON. You understand my theory?

Senator MURDOCK. We have the right as I understand it to spend all the money we possibly can on the Colorado River in order to put us in a position to fulfill this guaranty to Mexico.

Mr. TIPTON. No, Senator; that problem is not that great.

Senator MURDOCK. That is the way I understand it.

Mr. TIPTON. It is not a great problem, so far as the amount of storage that might be required to take care of this.

Senator MURDOCK. I understand that is your position.

The CHAIRMAN. Senator Wiley wants to ask a question.

Senator WILEY. Has the term "extraordinary drought" a sort of technical meaning? I started out with the idea that I knew what it meant, but you developed considerable thought today that would indicate that in areas like this it is pretty well accepted in relation to river storage, consumptive use, and so forth. Then I got the impression that since 1906, the former treaty, there has been raised no question as to its meaning; is that right?

Mr. TIPTON. There has been no question raised there as to its meaning; no, sir.

Senator WILEY. Then I got the further impression from your answer to my colleague that you felt that it was rather indefinite. Now, if that is so, have you any recommendation to this committee as to what should be done in relation to the treaty?

Mr. TIPTON. I do not, sir.

Senator WILEY. I mean relating to the phrase "extraordinary drought"?

Mr. TIPTON. Yes, sir.

Senator WILEY. That is, the definition of it.

Mr. TIPTON. No; I have none, sir, at the moment. I shall explain it further after I discuss water supply.

Senator WILEY. Thank you.

Senator JOHNSON of California. Let me ask you a question that has been handed to me by somebody on the outside. I think it is a proper question and therefore I ask it. Is it a fact that you have been employed for a long time by Colorado and by the upper basin States?

Mr. TIPTON. That is correct, sir.

Senator JOHNSON of California. How long?

Mr. TIPTON. I have been employed by the State of Colorado on various assignments since, I think, 1924. At the moment, I am consulting engineer for the Colorado Water Conservation Board. I am engineer and adviser to the compact commissioner for Colorado on the upper Rio Grande. I represented the upper basin—or, you asked only for Colorado?

Senator JOHNSON of California. That is all right. I ask you concerning the upper basin States, too.

Mr. TIPTON. I represented them during a period I think 1938-39, at the time the Boulder Canyon Project Adjustment Act was under consideration. The upper basin States at that time assisted California in getting that act through Congress, and I represented the upper basin States. In the hearings I testified for all interests. I mean in the hearings I testified for all interests, California and the upper basin States.

Senator JOHNSON of California. Was anyone from the lower basin similarly employed with the State Department?

Mr. TIPTON. I do not think so, sir. I have been, also, a consultant for the International Boundary Commission for many years.

Senator JOHNSON of California. You have been in a position of intimacy with the Boundary Commission, have you not?

Mr. TIPTON. For many years; yes, sir.

Senator JOHNSON of California. Was there any discussion in the negotiations of protecting the old vested American water rights against the guaranties given Mexico, or was the guaranty to new Mexican lands?

Mr. TIPTON. It was a guaranty to new Mexican lands?

Senator JOHNSON of California. Yes.

Mr. TIPTON. I do not quite get the import of the question.

Senator JOHNSON of California. What is that?

Mr. TIPTON. I do not quite get the import of the question. Throughout the entire negotiations there was uppermost in the minds of the United States negotiators the protection of all interests in the United States; there can be no question about that, Senator.

Senator JOHNSON of California. Well, the interests of Mexico, too?

Mr. TIPTON. There was only an attempt to define what Mexico's equitable rights in the stream might be, her equitable share of the water under comity or what not.

Senator JOHNSON of California. Was there any attempt to outrank old American priorities in this treaty during its negotiation?

Mr. TIPTON. By Mexico?

Senator JOHNSON of California. By anybody.

Mr. TIPTON. No, sir; and old priorities either in the upper basin or the lower basin will be affected in no way by this treaty; the use of water under such rights will not be affected in any way whatsoever.

Senator JOHNSON of California. But you are perfectly certain that there was no individual representing those adverse interests employed in the negotiation of this treaty?

Mr. TIPTON. I do not understand what you mean by "adverse interests." Interests adverse to the United States?

Senator JOHNSON of California. Yes.

Mr. TIPTON. Well, there was no one employed by the State Department that was adverse to the interests of the United States; I can assure you that, sir.

Senator JOHNSON of California. Well, all of you took your employment from the Secretary of State's office—I am not saying there is anything wrong about it—and that was your principal duty, was it not?

Mr. TIPTON. Yes, sir; and I will go a little further, sir. So far as I was concerned personally there was approved by my State, and by the upper basin States—

Senator JOHNSON of California (interposing). Now, by your State, you mean what?

Mr. TIPTON. Colorado.

Senator JOHNSON of California. Colorado?

Mr. TIPTON. By the upper basin states, and by the State of Arizona, a formula that the State Department had presented to the Committee of Fourteen and Sixteen. I felt these States had a common interest

and a common objective; and I did have a considerable interest during the negotiations to attempt to see that the provisions of the formula that my State, the upper basin States, and the State of Arizona approved, would not be exceeded by any terms of this treaty. They were not exceeded; the terms of the treaty are better than that formula. Had it appeared at any time that the provisions of the formula might have been exceeded, I would have had to have withdrawn from the negotiations.

Senator JOHNSON of California. You probably would have withdrawn?

Mr. TIPTON. Yes, sir.

Senator JOHNSON of California. Hurrah.

The CHAIRMAN. Is there any other question? You have got some considerable testimony?

Mr. TIPTON. I have just started, sir.

The CHAIRMAN. Just started!

Mr. TIPTON. Yes, sir; the questioning has taken up all the time, and I submitted to the committee the other day six items that I was going to discuss.

The CHAIRMAN. I will interrogate you slightly, then.

In your employment by Colorado and the upper States and the Boundary Commission, have you ever concealed that employment?

Mr. TIPTON. No, sir; no, sir.

The CHAIRMAN. Is there anything wrong with it?

Mr. TIPTON. No, sir; I would not have accepted any employment that was not right.

The CHAIRMAN. Were you ever in the employ of the Imperial irrigation district in southern California?

Mr. TIPTON. I have not been, sir.

The CHAIRMAN. It is all right to be employed by them, isn't it?

Mr. TIPTON. I would consider it an honor to be employed by them. Not in this matter of course.

The CHAIRMAN. Why, certainly.

Mr. TIPTON. I think it is a good district.

The CHAIRMAN. And they have got employees, haven't they?

Mr. TIPTON. Yes, sir.

The CHAIRMAN. Press agents?

Mr. TIPTON. I do not know about that.

The CHAIRMAN. Lobbyists?

Senator JOHNSON of California. No. No.

The CHAIRMAN. Oh, yes; most of your witnesses have been lobbying with the Senators ever since they have been here.

Senator JOHNSON of California. No.

The CHAIRMAN. I want to remind them there is a law against lobbying, unless you register.

Senator JOHNSON of California. Now, I resent that.

The CHAIRMAN. I am not addressing the Senator. I am expressing my own views.

Senator JOHNSON of California. Well, I am addressing you.

The CHAIRMAN. All right; go ahead.

Senator JOHNSON of California. And I will simply say that I resent the fact that anybody here has been lobbying.

The CHAIRMAN. Well, I know they have.

Senator JOHNSON of California. Well, I do not know it.

The CHAIRMAN. Well, all right; then do not dispute it.

Senator JOHNSON of California. Well, I will dispute it.

The CHAIRMAN. All right, all right, Senator; anything you say is all right; I will put up with it. I know that they have been lobbying, and several Senators have so advised me.

Senator JOHNSON of California. Now, who has been lobbying?

The CHAIRMAN. I am not going to detail private conversation.

Senator JOHNSON of California. Who has been lobbying on the other side?

The CHAIRMAN. All right. Why, I expect some of them do; I do not doubt that.

Senator JOHNSON of California. Yes.

The CHAIRMAN. They would certainly be fools if they did not, when you have got 15 or 20 lobbyists here for the Imperial Valley.

Senator JOHNSON of California. Yes; and how many though from the Secretary of State?

The CHAIRMAN. Get me that statement, Mr. Secretary, about the Imperial Valley's proposition to Mexico. I want to put that in at this point. Senator, I apologize to you; if I have in any wise offended you, I am sorry. I apologize, very abjectly.

Senator JOHNSON of California. Oh, you did not offend me, at all. We have these little scraps, and of course you take umbrage at something that I may say.

The CHAIRMAN. Oh, no; I never have, in my life.

Senator JOHNSON of California. And I might take umbrage at something you said.

The CHAIRMAN. No; I never take umbrage at anything you say. You can kick me if you want to, and it's all right, perfectly all right with me.

Where is Mr. Swing? I want to ask somebody. I will not bring this up in the absence of Senator Downey and Mr. Swing, but I will bring it up Monday.

Senator JOHNSON of California. All right.

The CHAIRMAN. It is a proposal that the Imperial Valley people supposedly made to the Republic of Mexico, about how much money they were going to get out of them for this water, and so on. I will bring it up Monday and give you the text.

Senator JOHNSON of California. Now, let us see just what it is. I never have seen it.

The CHAIRMAN. I will give it to you, now.

Senator JOHNSON of California. I do not want to see it.

The CHAIRMAN. All right.

Senator JOHNSON of California. I do not want to see it. I keep myself as clean as a washed baby.

The CHAIRMAN. I think that, Senator. You did not have anything to do with this.

Senator JOHNSON of California. No; I did not.

The CHAIRMAN. You did not have anything to do with this.

Senator JOHNSON of California. But I object to having it introduced against what I represent, here.

The CHAIRMAN. All right; we will wait until Monday. I will not introduce it now.

Senator JOHNSON of California. I represent nothing here but the United States of America.

The CHAIRMAN. I realize that.

Senator JOHNSON of California. I am sitting here, under some disadvantages, for 2 weeks, trying to do my duty toward my State and toward my country; and I have yet to see the witness upon the stand here be a witness for the United States or for my country; and I have a right to some sort of indignation on that score.

The CHAIRMAN. Well, Senator, it is perfectly all right. I have given you the utmost freedom to examine any witness you want to and put on all the witnesses you have got, here; which is a considerable number.

Now, you could not make much headway in 5 minutes, could you, Mr. Tipton?

Mr. TIPTON. No, sir; I do not think so.

The CHAIRMAN. I think we will recess until Monday morning, at 10:30.

(Whereupon, at 12:50 p. m., the committee recessed until next Monday, February 12, 1945, at 10:30 a. m.)

X

End

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