

DEPARTMENT OF STATE
INTERNATIONAL BOUNDARY COMMISSION
UNITED STATES AND MEXICO
UNITED STATES SECTION

El Paso, Texas
May 21, 1942

MEMORANDUM ON PRECEDENTS AS TO EQUITABLE
DISTRIBUTION OF INTERNATIONAL WATERS.

This memorandum has been prepared for the use of the Committee of Seven of the Colorado River Basin Committee of Fourteen. Copies of, and extracts from, some one hundred water boundary agreements are contained in the files of the United States Section, International Boundary Commission, United States and Mexico. More than three fourths of that number have reference in some degree to actual use of international waters. What was considered the eleven most important and relevant agreements (some involving several related treaties or diplomatic exchanges) were selected for analysis in this memorandum. The analysis for the most part was taken from a memorandum prepared in 1936 by G. F. Reinhardt, at that time Junior Statistician with the United States Section, who had made an exhaustive study of the treaties and related papers. Excerpts from treaties were taken from a compilation prepared by the Legal Section of the Commission in 1941. A list of additional treaties bearing on the subject in some degree, is attached. Because of their number and length, no individual analysis of the listed treaties is here attempted, but the data, of course, are available to the Committee, as are the sources from which the present memorandum was prepared.

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 1896-8, and is today ruled by a con-dominium. 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." (Paragraph 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, i 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 inter-communal 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." (Paragraph 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 to-day 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." (Paragraph 22)

"The Commission's main findings may be summarized as follows: -

- (1) 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." (Paragraph 88, 1.) (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.

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1. The African World, May 21, 1929
 2. The Nile Waters Agreement, by Pierre Crabites
Foreign Affairs, Vol. 8 (1929) No. 1,
pp. 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 north-westerly 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 head waters 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 respecting 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, in so far 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 these 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 Portugese 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 Portugese territory and turns northward passing the Kazambu Rapids and the place called Naulila and thence on in a northerly direction to its head waters which lie in Portugese Angola.

The flood channels, mentioned above, leave the east bank of the river above Naulila and also between Naulila and Kazambu Rapids and extend southward into Ovamboland, 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 flood water 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 Portugese 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 Okavengo) 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 Portugese territory, not more than 3 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 Eretria 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 Eretria and the Sudan of great fertility, but entirely dependent on the river for any productive agricultural development. Very little development had taken place in Eretria prior to this agreement. In the Sudan about 15,000 acres were under irrigation with waters from the Gash and in addition, the flood waters 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 Eretria the plain of Tessenei 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 Eretrian 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 five cubic metres per second at the complete disposal of Tessenei. The division of the supply from five up to 20 cubic metres per second should be made in such proportionately progressive manner that when twenty cubic metres per second is reached, the partition will be ten cubic metres per second to each.

"The discharge above twenty cubic metres per second should be divided in equal parts until the discharge required for the irrigation of the plain of Tessenei 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 further 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 uses 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." (Article III)

and that:

"The watering places of the Somalis are to be numbered and registered and the rights of the Somalis protected." (Article 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 pre-existing 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 hydro-electric 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 General de Traités, 3me serie XII, 582

6. Lakes Huleh and Tiberias and the Jordan River
Great Britain and France - February 2, 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 General de 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, 60,000 acre-feet of water per year, which it was estimated would be sufficient 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 water 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 provision 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.

8. 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. VI). 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 hydro-electric 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 of water per second, while on the Canadian side the limit was set at 36,000 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 condition 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 6040 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 Streams - France and Spain
May 26, 1866 and July 11, 1868

There are a number of irrigated areas in the Pyrenees in both France and Spain. The boundary treaty of 1866 between these two countries sought to set up a regime 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 State, 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 hydro-power 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 hydro-power 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,
Neuman'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
Traites, Belgium, I, 344-46.
7. Netherlands and Belgium, August 8, 1843, Art. 36, B.S.F.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. 209, 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. Notes as to Gold Coast and Ivory Coast, May 11/15, 1905,
Art. 4, Hertslet, Africa, II, 832, 41.
29. 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.