

COLORADO WATER CONSERVATION BOARD

SUPPLEMENT NO. 1 TO

Memorandum on

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

With special reference to
the portions of the Treaty relating
to the Colorado River

by

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March 1944

CONFIDENTIAL

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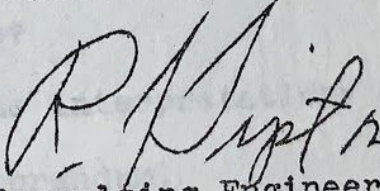
March 23, 1944

Colorado Water Conservation Board,
State Office Building,
Denver, Colorado.

Gentlemen:

In the subject memorandum it was necessary to assume interpretations of certain of the terms of the Colorado River Compact, and provisions of the Boulder Canyon Project Act which are at present, or may in the future, be in controversy. Such matters are discussed in this Supplement No. 1 to the memorandum.

Respectfully submitted,


Consulting Engineer

QUESTIONS WHICH REQUIRE FUTURE INTERPRETATION

1. Status of water apportioned by Article III (b) of the Colorado River Compact.
2. Is the upper basin obligated to deliver 75,000,000 acre-feet of water at Lees Ferry during successive ten-year periods, so long as usable water is in storage reservoirs of the Lower Basin?
3. Is reservoir evaporation to be charged against the allocations made to each of the basins by the Colorado River Compact? Should some of the evaporation from Lake Mead be charged to the allocation of the Upper Basin?
4. In determining beneficial consumptive use in the Lower Basin, as intended by the Colorado River Compact, should return flows reaching the river below Imperial Dam, not subject to use in the United States, but used by Mexico be credited to the Lower Basin and to the particular states from which the return flow goes?

The following are the interpretations of the above questions used in the memorandum.

1. Since Arizona has ratified the Colorado River Compact and has a contract with the Secretary of the Interior for the delivery of so much water as may be necessary for the beneficial consumptive use for irrigation and domestic uses in Arizona, of a maximum of 2,800,000 acre-feet, plus a delivery of one-half of the waters of the Colorado River system unapportioned by paragraphs (a), (b), and (c)

of Article III of the Colorado River Compact, it appears that a strict determination of the status of III (b) water is not necessary.

Apparently the records of the negotiations leading up to the drafting and signing of the Colorado River compact are clear that the million acre-feet of water apportioned by paragraph III (b) of the compact to the Lower Basin was to recognize existing beneficial consumption in the Gila river basin. The commission in considering the flow of the river at Lee Ferry and the inflow and losses below that point had finally arrived at an allocation of that water, namely, 7,500,000 acre-feet to the Lower Basin and 7,500,000 acre-feet to the Upper Basin. Arizona representatives then pointed out that under the definition of the Colorado River system, the Gila river was included and that one million acre-feet of water per annum were being beneficially consumed on the Gila. The one million acre-feet then was allocated to the Lower Basin to recognize this use. However, something happened between that time and the time the actual language of the compact was drafted. Article III (a) of the compact, quoted hereinbefore, apportions 7,500,000 acre-feet from the Colorado River system to each of the basins for exclusive consumptive use which shall include all water necessary for the supplying of any rights which then existed.

Obviously under this language the 7,500,000 acre-feet apportioned to the Lower Basin by Article III (a) must

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include the water then being consumed on the Gila river. Article III (b) gives the right to the Lower Basin to increase its beneficial consumptive use of waters of the Colorado River system by 1,000,000 acre-feet per annum which cannot be construed to be in recognition of existing uses in any part of the basin. However, California by statute limited her use of water apportioned to the Lower Basin by Article III (a) to 4,400,000 acre-feet per annum and to one-half of any excess or surplus waters unapportioned by the compact.

While California has argued that III (b) water is not apportioned water and is therefore surplus subject to use by her, yet this position does not seem to be tenable. The compact itself under Article III (f) states "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 xxxxx", (underlining supplied). This article recognizes that not only the waters covered by Articles III (a) and III (b) were apportioned, but that the water covered by Article III (c) which was water for Mexico if a treaty were negotiated, also was apportioned.

It appears plain that California's self limiting statute prevents her from using III (b) water. The situation is made plain by the following table:

Apportioned to the Lower Basin

By Article III (a)	7,500,000 acre-feet
By Article III (b)	<u>1,000,000</u> acre-feet

Total apportioned to Lower Basin	8,500,000
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Recognized for Nevada	300,000
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III (a) water to California under her statute of self limitation	<u>4,400,000</u>
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Total for Nevada and California	<u>4,700,000</u>
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Remaining for Arizona, Utah and New Mexico	3,800,000
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Present consumption on the Gila River	<u>1,000,000</u>
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Remaining for Arizona, Utah and New Mexico out of the main stream and tributaries other than the Gila	2,800,000
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This 2,800,000 acre-feet is now covered by Arizona's contract with the Secretary of the Interior. It seems, therefore, that III (b) water is automatically taken care of.

2. The compact provides that under Article III

(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 ten consecutive years xxxx". Article III (e) provides that "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 be reasonably applied to domestic and agricultural uses". Some have argued that there is no obligation on the upper division to deliver the 75,000,000 acre-feet at Lee Ferry in a ten-year period so

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long as water is available in the Lower Basin reservoirs for domestic and agricultural uses.

It is probable sometime in the future it will be necessary to appoint compact commissioners to administer the terms of the Colorado River Compact and that such commissioners will adopt certain rules and regulations. It would appear that with respect to the above problem, a rule which would permit holding water in storage in the Upper states to the credit of Lower Basin reservoirs would be rational. This water would be released to the credit of the delivery of 75,000,000 acre-feet in a ten year period during times when the stage of the reservoirs in the Lower Basin dropped to a predetermined level. Some might contend that such stage should be that represented by 5,000,000 acre-feet of storage as provided in Article VIII of the Compact. The main purpose of such an arrangement would be to prevent the spilling and wastage of water from the Lower Basin reservoirs. Since the Lower Basin has an interest in power generated at Boulder and therefore in head, the writer assumed in the foregoing discussion that the Upper Basin would fulfill its obligation to deliver 75,000,000 acre-feet in a ten year period, if necessary to prevent the drawdown of Lake Mead in excess of 16,000,000 acre-feet during a ten year period. This is an arbitrary assumption. However, in the United States Bureau of Reclamation's latest study of power that can be generated at Lake Mead it assumed a drawdown of some 16,000,000 acre-feet during the ten year period of lowest water supply.

3. The compact does not define beneficial consumptive use. However, on any project reservoir and other losses are recognized as a part of the overall consumption necessary to make water usable and such losses are considered a part of the beneficial consumptive use. Such losses are no different in category than the evaporation from canal systems and the incidental evaporation of water when applied to the lands. It seems apparent that reservoir evaporation must be included in the allocations made to the basins by Articles III (a) and III (b) of the Compact as a part of beneficial consumptive use.

However, the California Statute of Limitation and the contracts with the Secretary of the Interior for delivery of water from Lake Mead are all in terms of net amounts of water which do not include reservoir evaporation or desilting water. This would not seem to be in accordance with the intent of the Boulder Canyon Project Act where suggested allocations by Lower Basin compact are given in effect as follows:

California	4,400,000 A.F.
Arizona	2,800,000 A.F.
Nevada	<u>300,000 A.F.</u>
Total	7,500,000 A.F.

The suggested terms of the compact would have allocated all of the beneficial consumptive use in the Gila River to Arizona. This is estimated at 1,000,000 acre-feet. This added to the above accounts for the 8,500,000 acre-feet apportioned to the Lower Basin by Article III (a) and (b) of the Compact. It would appear that the above amount should include reservoir

evaporation and water required for desilting purposes. However, if the Lower Basin States desire to have the above amount of water as net amounts, the reservoir evaporation and desilting water must come from surplus to be apportioned in the future under Article III (f) and (g) of the Compact, which will reduce the amount of other water that will be available for use by the Lower States under those articles.

Article VIII of the Compact provides that after 5,000,000 acre-feet of storage have been provided on the main Colorado River for the benefit of the Lower Basin then the Lower Basin rights shall have no claim against water used by more junior rights in the Upper Basin so long as all uses are within the allocations provided for under Article III. In other words, 5,000,000 acre-feet of storage capacity were intended to divorce the basins so far as the priority of the use of water is concerned. It is claimed by some that the 5,000,000 acre-feet of storage thereby becomes a benefit to the Upper Basin and that the Upper Basin allocation of 7,500,000 acre-feet should include the evaporation from a reservoir in the Lower Basin having a capacity of 5,000,000 acre-feet. Others maintain that when the Upper Basin delivers 75,000,000 acre-feet of water at Lees Ferry its obligation under the terms of the Compact have been discharged.

In those sections of the memorandum which concern the effect of the terms of the treaty on United States uses it was assumed that that reservoir evaporation should come out of the total allocations of water made under the

Compact but no attempt was made to suggest the amount of the evaporation which should be charged to any particular state nor to any particular basin. A showing was made, however, of the amount of net surplus that would be available for use, if the Lower basin chose to charge all evaporation losses and desilting water to surplus.

4. California contracts provide in effect for the delivery of sufficient water from Lake Mead to permit her to make a net use of the amounts called for under the contracts. The self limiting statute defines the beneficial consumptive use as diversions minus return to the stream. The contract between Arizona and the Secretary of the Interior provides for the delivery of "so much water as may be necessary for the beneficial consumptive use for irrigation and domestic uses in Arizona, or a maximum of 2,800,000 acre-feet." The question is, should the states of Arizona and California receive credit for return flows accruing to the river below Imperial Dam, which flows cannot be used in the United States? If the waters cannot be reused they are in the same category as the large return flows that now go to the Salton Sea which are not subject to reuse. In this case the total diversion of the All-American Canal is chargeable in its full amount against the California contracts and against the Lower Basin allocation. However, with Mexico in the picture as the lowest user on the stream, and since ultimately the major portion of her water will be supplied from return flow reaching the stream below any point where