

## NAVAJO IRRIGATION—SAN JUAN-CHAMA DIVERSION

THURSDAY, JULY 10, 1958

UNITED STATES SENATE,  
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION,  
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,  
*Washington, D. C.*

The subcommittee met, pursuant to recess, at 10 a. m., in room 224, Senate Office Building, Senator Clinton P. Anderson (presiding).

Present: Senator Anderson.

Senator ANDERSON. The subcommittee will be in order.

We will take our California witnesses this morning. Senator Kuchel.

STATEMENT OF HON. THOMAS H. KUCHEL, A UNITED STATES SENATOR FROM THE STATE OF CALIFORNIA; ACCOMPANIED BY RAYMOND MATTHEW, CHIEF ENGINEER, COLORADO RIVER BOARD OF CALIFORNIA, LOS ANGELES, CALIF., AND ROBERT McCARTY, OF ELY, McCARTY & DUNCAN, TOWER BUILDING, WASHINGTON, D. C., SPECIAL COUNSEL FOR THE COLORADO RIVER BOARD OF CALIFORNIA

Senator KUCHEL. Thank you, Mr. Chairman.

Mr. Chairman, here with me today is Mr. Raymond Matthew, the chief engineer of the Colorado River Board of California, a public agency of the government of the State of California, and also Mr. Robert McCarty, of the law firm of Ely, McCarty & Duncan, Washington, D. C., which firm is special counsel to the Colorado River Board of California.

Mr. Chairman, under date of April 9, 1958, the Department of Water Resources sent to Secretary Seaton the views and recommendations of the State of California on the pending legislation and incorporated in the views of the Department of Water Resources are also the views of the Colorado River Board of California. If this document has not been filed with the committee, I ask unanimous consent that it be filed.

Senator ANDERSON. Without objection, it will be done.

I am not quite sure whether the document has been filed with the committee or not, but, in any event, we will accept that copy and put it in the committee's files for the benefit of the committee.

Senator KUCHEL. Thank you, sir.

I also have a letter addressed to me from Mr. Matthew under date of July 8, 1958, which I would like to read.

DEAR SENATOR KUCHEL: The Colorado River Board has requested that I submit to you a number of proposed amendments to S. 3648, a bill to authorize the



Navajo Indian Irrigation project and the San Juan-Chama diversion project as participating projects of the Colorado River storage project. Copies of these amendments are enclosed together with comments in explanation.

The amendments, all of which relate to water, may briefly be described as follows:

1. Amendments 1-5 are in many respects identical, with necessary modifications, to amendments offered in connection with the Frylingman-Arkansas legislation, most recently to S. 60 and H. R. 594 of the present Congress. Nos. 1 and 2 would assure that only the initial stage of the San Juan-Chama project is approved and authorized. No. 3 would subject the projects to the law of the river.

Senator ANDERSON. I don't follow that one. Do we not know in the legislation that only the initial stage is authorized?

Senator KUCHEL. I think, Mr. Chairman, there may be some question as to the precise language of your bill and an interpretation of it, and to avoid any problem that would be in the nature, I think, of a technical amendment because it would carry out, I am sure, the intention with which the chairman has introduced the bill.

Senator ANDERSON. It is all right then to authorize the initial phase of the project except that there is a tunnel, 1 structure, that will be of a capacity of 205,000 acre-feet, because it is cheaper to build it that way. The Bureau of Reclamation so advised, but other than that I think your authorization is only to the initial stage of the project.

Senator KUCHEL. Amendment No. 3 would subject the projects to the law of the river. I doubt that there is any problem there as to the intention.

Senator ANDERSON. I think the authorizing legislation clearly indicated that we were trying to put the projects under the law of the river. I must say that after we had done that there was quite a bit of argument that by so doing we said that everything in the upper Colorado was subject to the requirements of the Hoover Dam, which I do not think we ever said, but nonetheless it will have to be in accordance with the law of the river.

Senator KUCHEL. Thank you, sir.

No. 4 would direct the Secretary to conduct studies of the effect of transmountain diversions and of other uses in the upper basin upon the quality of water at Lee Ferry.

Senator ANDERSON. I think a pretty fair answer was given to that the other day by Mr. Reynolds, I believe, to the effect that any time you took water-carrying bodies, alkali, and various other things, and spread it across the land and got clean return water back to the river, you are bound to improve the quality of the water. I do not know all the story about deluging, and so forth, but provision has been made, I believe, in the authorizing legislation, for some sort of protection. We do not want it delayed, but we hope the Department of Interior has a sufficient protective study.

Senator KUCHEL. Mr. Chairman, in the interest of your busy schedule today, I would be very glad to have a discussion of this held subsequently. Would the chairman entertain any request by the junior Senator from California for some testimony on this at a subsequent time?

Senator ANDERSON. No; I think if we are going to have it we ought to have it now. I have a Finance Committee that has a very busy session this morning and I hope to get through with this in time

to get up there and vote because we have some trade treaties and questions as to whether it will be for 2, 3, or 5 years, and whether oil would be on mandatory quotas or be on discretionary quotas and there are matters there that involve the State of New Mexico in no small degree.

Mr. LOVE. Would you like to have Steven Reynolds testify, Mr. Chairman, here?

Senator ANDERSON. No; he was in the other meeting. I think we are satisfied. I think if there is some testimony on that, we would like to have Colorado's point of view.

Senator KUCHEL. May I finish the letter to indicate the other recommendations that will be made?

Senator ANDERSON. The junior Senator from the State of California has been a very cooperative member of the committee and we will get along with him in almost any way he wants to get along.

Senator KUCHEL. Thank you. Continuing to read the letter, it reads as follows:

No. 5 is a litigation resolution permitting suit if the Secretary does not conform with the law of the river or with State water laws.

I might say, in connection with that, Mr. Chairman, we did adopt legislation similar in character to this recommendation No. 5 in your upper Colorado River project.

Senator ANDERSON. Similar or identical? Is this a change?

Senator KUCHEL. No; this would be similar to what we did in the Colorado River storage project legislation.

Senator ANDERSON. If it is in the legislation, why do we need it now because this is a participating project?

Senator KUCHEL. It is simply in the interest of clarity. Actually, Mr. Chairman, if there is any question in the chairman's mind about the difference here and if the chairman has no objection to the litigation provision which is now in the law, I think perhaps suitable language to incorporate by reference specifically that provision of the present law might be made.

Senator ANDERSON. Well, at this time I forget the technicalities, but in all of these things there was some suggestion that the State of California might properly be a party to litigation if it involved the water that might flow into the State of California eventually or be available to it, but that we didn't want it intervening in the name of Texas to try to protect Texas as if Texas did want protection. We don't want California, in other words, standing around with a club saying, "We are going to sue you every time you come around whether you are involved or not." There has been every bit of indication of that in the State of California on the upper Colorado project, but we all recognize that California has very definitely the idea of seeing no projects constructed in the upper basin. I am not trying to say that the junior Senator from California, or the senior Senator from California for that matter, has taken that position, but we cannot help but worry about the constant repetition that Mr. Engle makes on various points that he does not desire to delay every project if he can.

Senator KUCHEL. My point here would be, Mr. Chairman, that I doubt very much, first, that any court would entertain a complaint by a State which was not grounded on a possible damage to the common planning State, and I must say that, in my judgment, the State of



California, nor any State in the upper Colorado River project, upper Colorado River Basin, or Colorado River Basin, would entertain such a thought as to what might be described as frivolous litigation.

Senator ANDERSON: I did not mean frivolous. I mean harassment. I cannot prove any charge of that nature. I just do not want it to be possible, if we can help it. I think the Senator from California will agree that we went a long way in trying to accept language that brought in the Boulder Canyon Act and everything else to try to make sure that California's rights were considered by the legislation we passed. Now what I would like to have is a showing as to why that is not sufficient. In other words, I am saying to the Senator from California that I would hope if his people in California, the Colorado River Board, or some other board, feel that the language now in the authorizing legislation is not sufficient, that they submit something in the nature of a brief to show why it is not sufficient to protect them and why they need this repetition of the language in this act.

If they make a good case, I would say the committee would be inclined to agree with them.

Senator KUCHEL: I appreciate that frank comment because, if I understand it properly, it is the view of the distinguished junior Senator from New Mexico that the provision of the Colorado River Storage Act with respect to litigation is fair and should be followed and should apply to the bill of the distinguished Senator which is now before us.

Senator ANDERSON: I do not know whether it is fair or not. I only know we put it in because it seemed to be proper at the time. The attorneys advised us it was a provision that California might have a right to request and in order to make absolutely sure they were safeguarded we put it into the bill. I think sometimes you put in provisions that actually turn out to be not as fair as you thought they were. This was not obtained by stealth. It was put in upon the request of California.

Senator KUCHEL: I was the author of the amendment and my recollection is that the Senator from New Mexico approved the amendment.

Senator ANDERSON: I certainly did. I did it on the advice of counsel. It was the best I could do at that point and I am still glad I put it in the bill.

Senator KUCHEL: I am too. It does work both ways. At least, let the record show that no lawsuits thus far have been filed or publicly proclaimed as about to be filed.

Senator ANDERSON: I will say to the junior Senator from California I think we had the testimony from the State of Texas yesterday, a very good presentation, I would say, and a very fair presentation. Unfortunately, the State of New Mexico and the State of Texas have been tied up in a lawsuit for a long time, which I thought was the poorest way in the world to settle our differences. I pleaded with my Texas friends to try to persuade the responsible authorities not to get involved in a lawsuit. Out of a lack of knowledge of the law, I thought I considered that they were going to lose the lawsuit and God stayed on the side of the weak and they did lose the lawsuit. I do not know what Alaska will be able to do with the big power it is going to be, but the big State of Texas did lose the lawsuit and it was too bad all the way through that we did get into the litigation. I

thought the representations made by the State of Texas yesterday were very encouraging because there was no indication of distrust but a desire on the part of the Governor, of the man who represented the water board, and on the part of the attorney and manager of the El Paso district, that they wanted to live with their neighbors and for that reason we were quite willing to go all-out for them where we might have felt like going otherwise.

I will say to the able Senator from California that I only suggest that he have his group file the amendment that they think needs to be filed with reference to the litigation and support it by some sort of argument as to why it is essential to protect the interests of California over and above the language that is in the original enabling act.

Senator KUCHEL: I will be glad to do that. In that connection, so I understand, is it the position of the Senator from New Mexico that the litigation provision in the present upper Colorado River storage project law would supply to his bill if it did become law?

Senator ANDERSON: I will take the answer to that from a lawyer. I only know we did everything we could to insure that the State of California got what litigation protection it needed. I would not attempt to answer a legal question without the advice of some lawyer on it.

Senator KUCHEL: Quite aside from whether it was legal or not, is it the intention, from a policy standpoint, of the Senator that his bill would be subject to the provisions of the present upper Colorado River storage law?

Senator ANDERSON: Yes; I think there is no question about that. I will put a question mark after that reply until I have the advantage of expert advice.

Senator KUCHEL: Going on, Mr. Chairman, the letter reads as follows:

2. Amendment No. 6 is a proposed limitation act on transmountain diversions. In connection with committee consideration of Fryingpan in the 84th Congress, Senator Anderson indicated that a resolution of this problem would have to be faced sometime, saying: "I wondered if it might not be well to set down some boundaries eventually and say that so much can be diverted" (hearings on S. 300, p. 223). Such an amendment was offered to the Fryingpan bill on the House side by western Colorado interests as well as by the board.

Senator ANDERSON: May we strike the previous question and I will have you ask that question again, Senator.

Senator KUCHEL: Is it the intention of the distinguished chairman, in offering the bill before us, that the litigation provisions of the Upper Colorado River Storage Project Act would apply to this bill?

Senator ANDERSON: Mr. Stewart French, general counsel for the committee, will answer that.

Mr. FRENCH: Section 2 would look as though it would, but I would like to read the rest of it. Do you have a question about whether section 2 does not?

Senator KUCHEL: My position is this: The State of California has requested the chairman and the members of the subcommittee to consider a series of amendments. One of those amendments would provide for litigation in the event that it was alleged the Secretary of Interior was not following the law of the river in his administrative capacity with respect to the projects in the bill.



Mr. FRENCH. I remember very well how hard we worked on that provision.

Senator KUCHEL. Yes; indeed.

Senator ANDERSON. Now, Mr. French, what I was trying to say is, I would like to have the State of California indicate to us where the language of the original bill, plus the language of this bill, is not sufficient to protect them and to file some sort of brief to indicate why they do not think there was sufficient protection. The Senator from California then asked me if it is not my intention of having these provisions go into the original bill. I am a little bit concerned about the fact that we will get another basin here and he may be asking to have the Secretary of the Interior to administer another basin where he does not have authority to administer the act.

That is what I want to clarify.

Mr. FRENCH. Sir, I think section 2 takes care of the problem proposed by Senator Kuchel.

Senator KUCHEL. In other words, that the present law on litigation would apply to the projects in the bill?

Mr. FRENCH. Yes, sir.

Senator KUCHEL. It would apply to the projects in the bill in compliance here?

Mr. FRENCH. Yes, sir; that is correct.

Senator ANDERSON. Insofar as the rights of California are concerned?

Mr. FRENCH. Yes; insofar as the rights of California are concerned. Senator KUCHEL. Or any other State because the litigation is not limited to one State.

Senator ANDERSON. In the basin?

Senator KUCHEL. Yes.

Senator ANDERSON. Keep the State of Texas out of it.

Senator KUCHEL. I beg your pardon. Yes; in the basin, and quite aside from the problem of legality involved, it is the intention of the distinguished Senator from New Mexico, on a policy basis, that the litigation provision would apply, is that not true?

Mr. FRENCH. I cannot answer as to policy. I would think legally speaking, sir, the way this is drawn, that those provisions would apply.

Senator KUCHEL. But I would ask my colleague from New Mexico, is that not his position too, on the basis of policy?

Senator ANDERSON. I do not understand the reason for the question of the Senator from California and therefore I am reluctant to answer. I am not going to be led into a trap on this thing by any amount of persuasion.

Senator KUCHEL. I have no trap in mind.

Senator ANDERSON. We have answered frankly what the counsel thinks and I am, on his advice, willing to say that I believe the litigation provisions in the original legislation of Public Law 485 would apply to anything done under this act.

Senator KUCHEL. That is good enough for you?

Senator ANDERSON. I am willing to say, also, we wrote provisions into the Upper Colorado bill, and in this bill we attempted to pick up those provisions and make them applicable.

Also, I want to say this to the Senator from California: If it seems to him that I tried to avoid a question of this nature he has pro-

pounded, I have merely tried to do as I do in my own private business; that is, I employ good lawyers and I take their advice.

I prefer to take the advice of the lawyer for this committee, or the attorney for the Interstate Streams Commission. I will not attempt to answer the question as he put it. If the Senator is not satisfied with my answer, let the question be submitted in such fashion that we can examine what he has put forward and can reply to it in proper legal fashion; but I say to him, very frankly, we have not attempted to deprive the State of California of the privileges and benefits that were carried in the original legislation on anything we have written into this legislator.

Mr. FRENCH. May I suggest, in view of the language of section 2, the burden is on anyone objecting to it, I would think, that is, the burden of showing where section 2 does not cover the situation.

Senator ANDERSON. That is where the language is deficient in any way.

Mr. FRENCH. Yes.

Senator KUCHEL. But, in your judgment as a lawyer, there is no deficiency problem involved here?

Mr. FRENCH. In my judgment, there is not, sir.

Senator KUCHEL. And I should not be heard to ask again if that is the intention of the present chairman?

Senator ANDERSON. I will stay with my lawyer. I will let him answer it.

Senator KUCHEL. I do think, sir, that if the chairman were interested, the problem, as he himself envisioned it, might be explored as to whether there should be, in this whole question of transmountain diversions, some guidelines, some boundaries, and if the chairman were interested in pursuing that it should be pursued.

Senator ANDERSON. I think that amendment, if it comes about, should go to the whole upper Colorado River storage project and it might come to the whole of the river. The State of California, if I am correctly advised, has diverted some Colorado River water into the city of Los Angeles, for example. Now does it have any responsibility to refuse to divert that water, let it in the basin so that it can help fulfill our treaty obligations to Mexico to get a million and a half acre-feet and, therefore, if the bill is to be put in, it stops the upper basin from diverting. By what language, also, that abrogates any agreement to divert into the State of California.

I think that is sauce for the goose is still a little bit of sauce for the gander and I think the principle of diversion was pretty well established by the State of California and I think beautifully so, constructively so, when it took this water from the Colorado River and used it where it was needed; namely, the city of Los Angeles.

As the Senator from California knows, as he and I have worked on it, our principal interest on saving water projects is to take off the Colorado River and other rivers similarly situated, the pressure for pollutable water in these dynamic growing cities that we have in California and other States. Half of the trouble between Arizona and California, I think, would disappear then, if a proper water supply could be made available from the inexhaustible waters of the Pacific Ocean.

Now, in the absence of that, the State of California came over on New Mexico and hired our engineer from the Middle Rio Grande Serv-



ing District, Mr. Burckholder, and moved him out and let him help build some tunnels in the mountains and brought through the water to Los Angeles. The result has been a tremendous growth in that city and the surrounding area. I think California had a right to use that water where it would best serve the needs of its people and did so use it. Now give us the same privilege. Give the State of Colorado the same privilege. The Fryingpan project has been held up for a long time. I have voted for it, supported it, helped move it out of committee round after round.

I think the State of Colorado has a right to say, "We want to use this water in a certain way," and I did suggest at one time that there should be a formula that needed to be applied to these diversions, because there is not the return flow. That might mean that the diversion would have to be charged with a certain amount of water because it didn't return it to the river in excess of the normal diversion it might make. But we have, fortunately, sufficient water still left in our allotment to take care of any losses there might be as a result of the diversion.

We are talking of diverting 110,000 acre-feet. We will still have left nearly 200,000 acre-feet not appropriated, so if somebody contended 110,000 acre-feet should be returned in the return flow, which nobody would—but if they contended that that or a half of it or a third of it should be returned to the river, we still have plenty of water to leave in the river to make good on this diversion and that is why I feel that there needs to be a study of it and some policy adopted with reference to it, otherwise you will start proceeding on every project such as the Arkansas, Fryingpan, and the Colorado and some other diversion in New Mexico and various other things of a similar nature. I do not think we are too far apart, but I recognize there are some inequities in it.

Senator KUCHEL. I appreciate that. Let me, on behalf of the State of California, offer that amendment to be incorporated in the record.

Senator ANDERSON. Do you have it there to put in the record?

Senator KUCHEL. Yes.

Senator ANDERSON. You will supply all of them?

Senator KUCHEL. Yes. I will present them later in my testimony. Now, if I may, read the remainder of the letter of the chief engineer of the Colorado River board, it says:

We consider the amendments essential to the protection of the interests of California, and indeed of the lower basin, if these project proposals are to be acted upon favorably. The board's detailed comments, unfavorable to these projects, have been filed with the Secretary of the Interior under the Flood Control Act of 1944. While the board does not consider the projects feasible from either the engineering or economic and financial standpoints, it recognizes that the final judgment on these scores, particularly as to economic and financial feasibility, lies with the Congress. Accordingly, our amendments relate only to the protection of California's rights in the river.

We would greatly appreciate your offering this material for the record before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs so that our proposals may be before the committee, should it determine to act on this measure this session.

With kind regards,  
Respectfully,

RAYMOND MATTHEW, Chief Engineer.

Senator ANDERSON. May I read into the record at this time, section 14 of Public Law 485, which is the act of April 11, 1956, and which is referred specifically in section 2, and I will read now from the law.

In the operation and maintenance of all facilities, authorized by Federal law and under the jurisdiction and supervision of the Secretary of the Interior, in the basin of the Colorado River, the Secretary of the Interior is directed to comply with the applicable provisions of the Colorado River compact, the upper Colorado River Basin compact, the Boulder Canyon Project Act, the Boulder Canyon Project Adjustment Act, and the treaty with the United Mexican States, in the storage and release of waters from reservoirs in the Colorado River Basin.

I will say to the Senator from California that he brought us a good deal of that language and we were glad to put in there the references to the Boulder Canyon Project Act and the Boulder Canyon Project Adjustment Act, even though some of us felt that the reference to the Boulder Canyon Project Adjustment Act did not belong in there since it involved the supplying of current from installations; but, nonetheless, we did feel it was properly in there, if the State of California felt it was essential to its protection; I think that the language in the bill is sufficiently clear when it says, "pursuant to the provisions of the act of April 11, 1956, the Secretary of the Interior is authorized to instruct."

Senator KUCHEL. That is the opinion of the Senator from New Mexico?

Senator ANDERSON. My opinion is, that language is sufficient; yes, Senator KUCHEL. Not that that would be the intention?

Senator ANDERSON. No. No. I made my statement.

Senator KUCHEL. The Senator would not be inclined to indicate it was not the intention with which he offered the present bill?

Now, Mr. Chairman, I do offer the text of the proposed amendments which have been commented on in the letter.

Senator ANDERSON. That will be printed in full in the record, along with the letter supplied by the Senator from California.

LETTER FROM RAYMOND MATTHEW, CHIEF ENGINEER

STATE OF CALIFORNIA,  
COLORADO RIVER BOARD OF CALIFORNIA,  
Los Angeles, July 8, 1958.

Hon. THOMAS H. KUCHEL,  
United States Senate,  
Washington, D. C.

DEAR SENATOR KUCHEL: The Colorado River Board has requested that I submit to you a number of proposed amendments to S. 3648, a bill to authorize the Navajo Indian Irrigation project and the San Juan-Chama diversion project as participating projects of the Colorado River storage project. Copies of these amendments are enclosed together with comments in explanation.

The amendments, all of which relate to water, may briefly be described as follows:

1. Amendments 1-5 are in many respects identical, with necessary modifications, to amendments offered in connection with the Fryingpan-Arkansas legislation, most recently to S. 60 and H. R. 594 of the present Congress. Nos. 1 and 2 would assure that only the initial stage of the San Juan-Chama project is approved and authorized, No. 3 would subject the projects to the law of the river. No. 4 would direct the Secretary to conduct studies of the effect of transmission diversions and of other uses in the upper basin upon the quality of water at Lee Ferry. No. 5 is a litigation resolution permitting suit if the Secretary does not conform with the law of the river or with State water laws.

2. Amendment No. 6 is a proposed limitation act on transmission diversions. In connection with committee consideration of Fryingpan in the 84th Congress,



4. *Proposed new section re quality of water studies*

The quality of water remaining to the lower basin after consumptive uses in the upper basin is a matter of continuing concern. The question is accentuated when projects involving transmountain diversions are proposed. This proposed new section, if adopted, should result in a meaningful quality study of real value to the entire basin. It was offered in connection with the Fryingspan bill. The Interior Department commented on the House side that it had no objection to the general purpose of this proposal because "we should have just as much information of that kind as can be reasonably worked out and put together," but that it might involve more work than was necessary (hearings on H. R. 594, pp. 170-171). We consider it imperative that the study suggested should be made.

5. *Proposed new section re litigation and State water rights*

This was also offered in connection with the Fryingspan bill. The Interior Department objected on several grounds in a communication to the House committee (hearings on H. R. 594, pp. 168-170), while pressing no objection to the use of about the same language as in section 14 of the Colorado River Storage Project Act, which is the action the House subcommittee took, with some modifications. A major objection was to the inclusion of the word "construction." The inclusion of the contracts entered into was also objected to. We think both of these features are within section 7 of the Storage Project Act relating to the operation of the hydroelectric features of the project. The purpose of our amendment is to bring all of this material into one provision applicable basinwide. To cure Interior's objection to the use of the Supreme Court as the original forum for disputes arising under contracts, we have added a sentence permitting access by the contracting parties to any court of competent jurisdiction.

6. *Proposed new section re limitation on transmountain diversions*

One action which would assist measurably in the quality-of-water problem would be the adoption of an effective limitation on the water which may be taken out of the natural basin of the upper river by transmountain diversion. This proposal is patterned on the California Limitation Act which was required under section 4 (a) of the Boulder Canyon Project Act. Both the Board and west slope interests in Colorado offered similar amendments in the House (hearings on H. R. 594, pp. 96, 97 (serial No. 11); same hearings, pp. 22-25 (serial No. 19)).

The matter was recently raised in the Senate hearings on the Fryingspan project in 1955 when the following colloquy occurred:

"Senator ANDERSON. Before you go to your conclusion, Mr. Ely, have you ever given any thought to the possibility that the States of the upper basin might end this question of diversion, cross-mountain diversion project, by some sort of self-limitation act as California did, fixing the total amount?"

"Mr. ELY. Yes, Mr. Chairman, I have. In my conclusion I come to that very point."

"Senator ANDERSON. I had thought this matter had come up several times and we are going to have to come to a resolution of it sometime. I wondered if it might not be well to set down some boundaries eventually and say that so much can be diverted" (hearings on S. 300, p. 223).

The Arizona House passed a resolution in April 1955 which, among other things, opposed any projects to export additional water out of the basin (hearings on H. R. 412, p. 346).

At the time of the colloquy between Senator Anderson and Mr. Ely, just cited, California offered to attempt negotiations of a limitation on transmountain diversions. We renew that offer now. The estimates of possible transmountain diversions from the upper basin at the time of the Colorado River compact were on the order of 350,000 to 500,000 acre-feet per year maximum. We understand the upper limit is exceeded now in Colorado alone. The projects inventoried in the Bureau's report on the Colorado River in 1947 (H. Doc. 419, 80th Cong., 1st sess.), aggregate on the order of about 3 million acre-feet of transmountain diversions. Senator Anderson indicated that we were going to have to come to a resolution of the problem sometime. We think the time is now.

AMENDMENT NO. 1

Amendments to section 1 re approval of the San Juan-Chama project.

(a) On page 2, line 2, insert between "and" and "the": "the initial stage of".

Senator Anderson indicated that a resolution of this problem would have to be faced sometime, saying: "I wondered if it might not be well to set down some boundaries eventually and say that so much can be diverted" (hearings on S. 300, p. 223). Such an amendment was offered to the Fryingspan bill on the House side by western Colorado interests as well as by the board.

We consider the amendments essential to the protection of the interests of California, and indeed of the lower basin, if these project proposals are to be acted upon favorably. The board's detailed comments, unfavorable to these projects, have been filed with the Secretary of the Interior under the Flood Control Act of 1944. While the board does not consider the projects feasible from either the engineering or economic and financial standpoints, it recognizes that the final judgment on these scores, particularly as to economic and financial feasibility, lies with the Congress. Accordingly, our amendments relate only to the protection of California's rights in the river.

We would greatly appreciate your offering this material for the record before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs so that our proposals may be before the committee, should it determine to act on this measure this session.

With kind regards,

Respectfully,

RAYMOND MATTHEW, Chief Engineer.

AMENDMENTS PROPOSED TO S. 3648, TO AUTHORIZE THE NAVAJO INDIAN IRRIGATION PROJECT AND THE SAN JUAN-CHAMA PROJECT AS PARTICIPATING PROJECTS OF THE COLORADO RIVER STORAGE PROJECT

A number of amendments are proposed to S. 3648, the texts of which are attached. The amendments may be explained as follows:

1. *Amendments to section 1 re approval of the San Juan-Chama project*

This bill would appear to approve the full San Juan-Chama project in section 1, while authorizing only the initial stage in section 6. Such approval is recommended at page 32 of the regional director's supplemental report of May 1957. This recommendation is concurred in in the letter of September 6, 1957, to the Secretary, submitted jointly by the Commissioners of Indian Affairs and Reclamation. The purpose of the proposed amendments is to clear up any possible confusion by making it plain that only the initial stage is approved and that only that stage is intended to be authorized.

2. *Amendment to section 6 re authorization of the San Juan-Chama project*

This amendment is to some extent supplementary to those proposed in section 1.

The supplemental report of May 1957, indicates that various project features will be constructed to accommodate the ultimate stage of the San Juan-Chama project and \$2,800,000 of deferred costs are included. For this reason we think the disclaimer of any commitment to the ultimate stage is necessary and appropriate. In addition, to avoid the problems which can result for other basin works in the extreme variations in diversions which may be made, we suggest the inclusion of the 10-year aggregate.

3. *Proposed new section subjecting the projects to the laws of the river*

This proposal is in four subsections. Subsections (a), (b), and (d) are in the main modeled on four amendments made at the insistence of upper basin interests to the bill which authorized the "second barrel" of the San Diego aqueduct (act of October 11, 1951; Public Law 171, 82d Cong.), with necessary modifications. These subject the projects to the compacts, statutes, and treaties which comprise part of the so-called law of the river. In addition, subsection (d) also includes a declaration that Congress, by enacting this bill, does not interpret these documents. This is to guard against interpretations in the project reports (incorporated by reference in the bill) which are not agreed to by all of the States of the Colorado River Basin. All of these subsections were adopted by the committee at our suggestion in connection with S. 60, the Fryingspan-Arkansas bill, and appear in section 7 of that measure. Subsection (c) of our proposal would prohibit the use of any Colorado River system waters outside of the State of New Mexico. This subsection is in most respects the same as the proposal adopted by the committee in section 7 (c) of the Fryingspan bill.



(b) On page 2, strike lines 4 and 5 and insert: "Supplemental Report on San Juan-Chama Project, Colorado-New Mexico, May, 1957, such project plans and reports having been"

AMENDMENT NO. 2

Amendment to section 6 re authorization of the San Juan-Chama project.  
On page 6, line 24, delete the period and insert: "but not to exceed an aggregate of 1,100,000 acre feet in any period of ten consecutive years, and nothing in this Act shall constitute a commitment, real or implied, to the further exportation of water from the Colorado River system."

AMENDMENT NO. 3

Proposed new section subjecting projects to the law of the river.  
"Sec. — (a). The use of water, including that diverted from the Colorado River system to the Rio Grande Basin, through works constructed under authority of this Act, shall be subject to and controlled by the Colorado River compact, the Upper Colorado River Basin compact, the Boulder Canyon Project Act, and the Mexican Water Treaty (Treaty Series 994), and shall be included within and shall in no way increase the total quantity of water to the use of which the State of New Mexico is entitled and limited under said compact, statute, and treaty, and every contract entered into under this Act for the storage, use, and delivery of such water shall so recite.

"(b). All works constructed under authority of this Act, and all officers, employees, permittees, licensees, and contractees of the United States and of the State of New Mexico acting pursuant thereto and all users and appropriators of water of the Colorado River system diverted or delivered through the works constructed under authority of this Act and any enlargements or additions thereto shall observe and be subject to said compact, statute, and treaty, as hereinbefore provided, in the diversion, delivery, and use of water of the Colorado River system, and such condition and covenant shall attach as a matter of law whether or not set out or referred to in the instrument evidencing such permit, license, or contract 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 system.

"(c). None of the waters of the Colorado River system shall be exported from the natural basin of that system by means of works constructed under authority of this Act, or extensions and enlargements of such works, to the Rio Grande River Basin for consumptive use outside of the State of New Mexico, and no such waters shall be made available for consumptive use in any State not a party to the Colorado River compact by exchange or substitution or by use of return flow; nor shall the obligations of the State of New Mexico under the provisions of the Rio Grande River compact (53 Stat. 785), be altered by any operations of any project for transmountain diversion of Colorado River system water into the Rio Grande Basin.

"(d). No right or claim of right to the use of the waters of the Colorado River system shall be aided or prejudiced by this Act, and Congress does not, by its enactment, construe or interpret any provision of the Colorado River compact, the Upper Colorado River Basin compact, the Boulder Canyon Project Act, or the Mexican Water Treaty or subject the United States to, or approve or disapprove any interpretation of, said compacts, statute, or treaty, anything in this Act to the contrary notwithstanding."

AMENDMENT NO. 4

Proposed new section re quality of water studies.  
"Sec. — The Secretary of the Interior is directed to institute studies and to make a report to the Congress and to the States of the Colorado River Basin of the effect upon the quality of water available at Lee Ferry, of all transmountain diversions of water of the Colorado River system and of all other uses of the waters of that system now existing, authorized or proposed to be made in the Upper Colorado River Basin including those proposed to be made under the authority of this Act."

AMENDMENT NO. 5

Proposed new section re litigation and State water rights.  
"Sec. — In the construction, operation, and maintenance of all facilities authorized by Federal law and under the jurisdiction and supervision of the Secretary of the Interior for the utilization of waters of the Colorado River system, including but not limited to all works authorized by this Act, the Secretary is directed to comply with the applicable provisions of the Colorado River compact, the Upper Colorado River Basin compact, the Boulder Canyon Project Act, the Boulder Canyon Project Adjustment Act, the Colorado River Storage Project Act, the Treaty with the United Mexican States, and any contract lawfully entered into by the United States under any of said Acts, or of this Act, in which such waters are used relating to the control, appropriation, use, and distribution of water in those States, respectively. In the event of the failure of the Secretary of the Interior to so comply, any State of the Colorado River Basin may maintain an action in the Supreme Court of the United States to enforce the provisions of this section and consent is given to the joinder of the United States as a party in such suit or suits, as a defendant or otherwise. Consent to joinder of the United States is likewise given in any suit, action or proceeding brought in any court of competent jurisdiction upon any cause of action arising under any contract lawfully entered into by the United States pursuant to either of the compacts or the Acts mentioned in this section."

AMENDMENT NO. 6

Proposed new section re limitation on transmountain diversions.  
"Sec. — 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 unless and until the State of New Mexico, by act of its legislature, shall agree irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, California, 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 (measured at the point of diversion from the natural basin of the Colorado River system) by or in the State of New Mexico of water of and from the Colorado River system by means of transmountain diversion from the natural basin of that system to any other drainage basin shall not exceed 20 per centum of the apportionment to which the State of New Mexico may be entitled pursuant to article III (a) of the Upper Colorado River Basin compact, subject to the provisions of the Colorado River compact and to the availability of water thereunder, and the President by public proclamation shall have declared that such act of the Legislature of New Mexico has been duly enacted and is effective."

Senator KUCHEL. Now, Mr. Chairman, Mr. Matthew is here and he has a fairly lengthy prepared statement.

Senator ANDERSON. All right, Mr. Matthew, you may proceed.  
**STATEMENT OF RAYMOND MATTHEW, CHIEF ENGINEER, COLORADO RIVER BOARD OF CALIFORNIA, LOS ANGELES, CALIF.**

Mr. MATTHEW. My name is Raymond Matthew. I am chief engineer of the Colorado River Board of California. The board was created by an act of the California Legislature with the express duty and responsibility of protecting and preserving the rights and interests of California, its agencies and citizens in the waters of the Colorado River system.

California agencies have rights established by prior appropriation and by contract with the Secretary of the Interior under the authority of the Boulder Canyon Project Act, providing for the use in Cal-



fornia of 5,362,000 acre-feet annually of water from the Colorado River system. They have invested more than \$700 million in projects already constructed and in operation for diversion and use of Colorado River water. It is the duty of the State to protect and preserve those rights and investments of its citizens.

Therefore, California is rightfully concerned in any proposals for the further development of the water resources of the Colorado River Basin. It is necessary for the State to analyze thoroughly any such proposals and to take whatever steps appear required to insure that rights of California and its agencies, in and to the waters of the Colorado River system shall not be impaired.

Position of the Colorado River Board of California. The fundamental position of the Colorado River Board regarding the development of the water resources of the Colorado River Basin is that such development should be planned from a basinwide standpoint and that only those projects should be authorized which, together with others existing, proposed, or contemplated will best serve the broad interests of the basin. To this end it is believed that each proposal should be sound economically and engineeringwise and should assure the best overall use of water resources and the greatest benefit to the general economy. In a region as short of water as the Colorado River Basin extra care must be taken to secure the ultimate development that would be of optimum benefit.

The Colorado River Board is in favor of the development of the water resources of the Upper Colorado River Basin within the limits of the legal rights of the upper basin, provided such development is made upon sound engineering and economic bases, is made only as needed and will not impair the rights of the lower basin; but the board strongly believes that such upper basin development should also conform to an overall pattern that is best for the basin as a whole.

Based upon a careful review and analysis of the planning reports, the Colorado River Board considers that the Navajo Indian irrigation project and the San Juan-Chama diversion project proposed for authorization in the pending bill S. 3648 fail to meet the foregoing fundamental criteria as respects (1) water supply and use affecting engineering feasibility and (2) financial feasibility and economic justification. Accordingly, it is the board's position that neither the Navajo project nor the San Juan-Chama project as proposed in the reports should be authorized by the Congress as Federal undertakings.

#### WATER SUPPLY AND USE—NEW MEXICO'S ENTITLEMENT

There is serious question whether the New Mexico entitlement to water under the Colorado River compact would amount to enough on the average to supply the estimated requirements of both the proposed Navajo Indian project and the contemplated ultimate development of the San Juan-Chama project, in addition to the requirements of other New Mexico projects, existing and authorized, for use of Colorado River system water.

The report by Raymond A. Hill, consulting engineer, made to the Colorado Water Conservation Board in October 1953 (printed as S. Doc. 23, 84th Cong., 1st sess.) concludes that the aggregate possible depletion in the upper basin may be no more than 6,200,000 acre-feet per year.

A few days ago at the trial in San Francisco of *Arizona v. California, et al.*, testimony was presented by a witness for the State of Arizona, Mr. John R. Erickson, who was formerly State engineer of New Mexico, by way of rebuttal for Arizona in regard to the water supply of the Colorado River. Accompanying his testimony were several exhibits. I have here five of the exhibits which set forth Mr. Erickson's estimates of water supply and the bases upon which the estimates were made including exhibits 358 to 361, inclusive, and exhibit 366.

(The exhibits referred to appear later in Mr. Matthew's testimony.) Mr. Matthew, Exhibit 358 presents an estimate of the release from the upper basin for the Mexican treaty obligation under Arizona's assumptions relating thereto. The assumptions appear on page 3 of exhibit 358. Attorneys for the State of Arizona made it clear that the assumptions in regard to the Mexican treaty obligation were given to Mr. Erickson by the Arizona attorneys as being in accord with Arizona's interpretation of the compact with respect to the upper division's obligations to supply water to service the Mexican water treaty, and that Mr. Erickson's computations were based upon such legal interpretations. The exhibit shows an upper basin obligation, averaging for the years 1909 to 1956, 1,280,000 acre-feet per year, to be added to the upper division's obligation under article III (d) of the compact.

Exhibit 359 presents an analysis of the operation of upper basin storage based upon the assumption:

With 25 million acre feet effective storage; 5,700,000 acre-feet annual depletion at Lee Ferry; 75 million acre-feet releases per 10-year period to lower basin, plus spills; and, releases for Mexican treaty obligation, 1909-56.

The significance of 25 million acre-feet is that it is the equivalent of all the holdover capacity (active) in the upper basin, in terms of effect at Lee Ferry, that is, it reflects the active storage capacity which will be available when Glen Canyon, Flaming Gorge, Curecanti, and Navajo Dams are built.

Exhibit 360, on the same assumptions, shows net inflow to Lake Mead. The average shown on page 2 is 10,458,000 acre-feet, of which 2 components are supplied by the upper basin: Column 2, 8,231,000 acre-feet, which is "annual flow at Lee Ferry, to supply 75 million acre-feet in 10 years, plus spills"; and column 3, "releases at Lee Ferry for the Mexican treaty obligation," which is 1,280,000 acre-feet.

These two components aggregate 9,511,000 acre-feet. The remaining component is: Column 4, the estimated historic net gain Lee Ferry to Hoover Dam which is 947,000 acre-feet per year. In other words, the upper basin is required to release 9,511,000 acre-feet on the average, although able to deplete at Lee Ferry only 5,700,000 acre-feet for its own use, including reservoir losses.

Exhibit 361, on the same assumptions, shows the "operating characteristics of Lake Mead." If the average inflow is 10,458,000 acre-feet (as transferred from exhibit 360), the sustained annual release will be 9,600,000, on an average, plus 337,000 acre-feet of spill.

Exhibit 366 presents a summary of water supply available on long-term basis from main stream of Colorado River in lower basin on basis of 35 million acre-feet, upper basin effective storage.

No detailed operation studies were presented by Mr. Erickson for the 35 million acre-feet assumed storage capacity in the upper basin.



However, it will be noted that under this assumption the upper basin would have available for use in terms of depletion at Lee Ferry, 6,200,000 acre-feet annually, including main stem reservoir evaporation losses. It is desired to make clear again that the figures in these exhibits represent Arizona's assumptions and interpretations of the operation of the Colorado River compact, since the testimony was presented by an Arizona witness and stated to be based upon assumptions made by legal counsel of the State of Arizona.

These estimates indicate that the net water supply, after deducting main-stem reservoir evaporation losses available for use in the upper basin for participating projects, may not be more than 5 million to 5,500,000 acre-feet a year on the average. New Mexico's share, 11.25 percent of a median of those amounts, would be about 600,000 acre-feet a year average.

Present and authorized projects in the San Juan River Basin in New Mexico require an estimated 120,000 acre-feet a year, leaving 480,000 acre-feet for future developments. The estimated total net annual requirements of the Navajo Indian project and the ultimate phase of the San Juan-Chama project combined is 520,000 acre-feet a year. Thus, the indicated deficit is 40,000 acre-feet a year. This indicated deficit would be increased an additional 75,000 to 100,000 acre-feet using a more realistic figure for depletion by the Navajo project as referred to hereafter.

Assuming only the initial phase of the San Juan-Chama project, there would be an indicated surplus of 90,000 acre-feet a year. However, in our opinion the net use of water on the Navajo Indian project would be 75,000 to 100,000 acre-feet a year more than estimated in the planning report. Some 50,000 acres of the project service area lie 20 to 40 miles from the San Juan River and it is highly questionable if there would be much if any return flow therefrom to the river. Furthermore, the foregoing analysis makes no provision for future domestic and industrial water requirements in the San Juan Basin of New Mexico, which it is understood have been estimated at 225,000 acre-feet a year. It appears evident that further consideration should be given to the question of availability of water supply under New Mexico's entitlement to Colorado River systems water under the compacts, before embarking on these proposed projects.

#### ADEQUACY OF WATER SUPPLY

It also is questionable whether the long-time average flow physically available in the San Juan River is sufficient, with the contemplated amount of storage regulation at the Navajo Reservoir site, to supply the water requirements of existing and authorized developments in the San Juan Basin, plus the additional requirements of the Navajo Indian project and the San Juan-Chama diversion project. The water supply and reservoir operation studies for Navajo reservoir in the Interior Department report were carried only through the period 1928 to 1951, inclusive.

Since 1951 there has occurred the most severe 4-year period of flow of record on the San Juan River. In the period, 1953 to 1956 inclusive, the estimated average flow was only about half the estimated average for the period 1928-51; and for the 14 years, 1943 to

1956, inclusive, was only about 75 percent of the average for the longtime period.

Inspection of the operation studies in the report, and supplemental data made available by the Bureau, indicates that the water supply in the basin even with the regulation that could be accomplished at the Navajo Reservoir site would be insufficient to furnish the existing requirements, the requirements of the projects contemplated in the pending legislation and the potential industrial uses in the San Juan Basin. Extension of the operation studies through the year 1956, using annual streamflow data, shows that with all the existing and proposed future demands upon the Navajo Reservoir, including the Navajo Indian project and the initial stage of the San Juan-Chama project, there would have been substantial water shortages in many years between 1945 and 1956, and that the reservoir would have been empty (that is, drawdown to dead storage level) for 4 of those 11 years, including 3 consecutive years. With the ultimate development of the San Juan-Chama project the reservoir would have been substantially empty for the last 11 years; severe shortages would have occurred in 8 of the last 11 years.

The contracting provisions of section 7 of S. 3648 anticipate shortages in water supply which would necessitate arrangements for sharing of shortages and limiting contract commitments. It is submitted, however, that the occurrence and amount of water shortages indicated by the water supply studies are so severe as to present a most unhealthy prospect for successful operation of the proposed projects. The indicated inadequacy of the water supply casts grave doubt on the engineering feasibility of the proposed undertakings.

The entire subject of the adequacy of the water supply for existing and potential future developments in the San Juan River Basin should be more thoroughly studied and more fully analyzed before consideration is given to development of the proposed projects, particularly in view of the high costs of the undertakings.

In the light of the foregoing questions as to availability and adequacy of water supply, it appears evident that any idea of giving advance approval to or adopting the plan for the "ultimate" stage of the San Juan-Chama project would be most unrealistic and premature at this time.

#### NAVAJO INDIAN WATER RIGHTS

Since an exchange of lands or an expansion of the Navajo Indian Reservation is contemplated or implied in the report, the question of the limit to which the Indians' water rights can be extended poses a serious problem. The entire question of Indian rights is one of the issues in the current United States Supreme Court suit, *Arizona v. California, et al.*, and this issue at least should be resolved before additional Indian irrigation projects are authorized.

#### QUALITY OF WATER

There is no treatment in the report of the possible effect of either the Navajo or the San Juan-Chama project upon the chemical quality of the waters of the Colorado River system. Such possible effect is also an important question in the interpretation and the administration of the Colorado River compact. The problem as to quality of



water involves all projects, existing and proposed, in the basin. More data and much additional study are needed on this problem, which is deemed to be one of the most serious matters requiring solution. In this connection the Colorado River Board deems it essential that there be a definite limit set on transmountain diversions.

#### SAN JUAN-CHAMA PROJECT DIVERSION

Information in the report on the San Juan-Chama project indicates a contemplated variation of the proposed transmountain diversion from year to year, ranging from about one-third to about twice the estimated ultimate average of 235,000 acre-feet. Such possible variations must be taken into account in conjunction with possible annual variations in other diversions and uses in the upper basin, all as pertaining to the rights of the respective States. Such consideration is not apparent in the Reclamation Bureau report which is thus incomplete in this important aspect and does not constitute a proper guide to the Congress and the affected States. The diversion should be clearly defined by appropriate limitations giving due recognition to downstream water rights and requirements.

#### POSSIBLE VIOLATION OF COLORADO RIVER COMPACT

Examination of the San Juan-Chama report indicates the expressed or implied intent to use diverted water of the San Juan River in a manner that might be a violation of the Colorado River compact. Uses of water under the Colorado River compact are restricted to the States of the Colorado River Basin by the terms of the compact.

On the other hand, section 2 of the Colorado River Storage Project Act (Public Law 485, 84th Cong.), provides that water diverted from the San Juan River to the Rio Chama shall be handled at all times in strict compliance with the Rio Grande compact: Thus, there is introduced the possibility of conflicting purposes as between compliance with the Colorado River compact and compliance with the Rio Grande compact.

New Mexico has incurred a substantial deficit in the delivery of water to Texas under the operation of the Rio Grande compact. The report on the San Juan-Chama project contains a recommendation by the Elephant Butte Irrigation District that water imported from the San Juan Basin be first applied to reduction of the deficit and that such arrangement have permanent application.

If the proposed diversion from the San Juan River were to result in more water passing beyond the boundaries of New Mexico than would occur in the absence of such diversion, the provisions of the Colorado River compact would be violated.

The chief concern of the Colorado River board in the proposed projects lies in the foregoing questions with respect to water supply and use. However, in reviewing the planning reports, an analysis also has been made of the financial and economic aspects of the proposed projects. It is deemed proper that the results of this analysis be furnished for the information of the committee and the Congress, upon which the final decision rests. The following presents a summary of those analyses.

#### ECONOMIC AND FINANCIAL ASPECTS—ECONOMIC JUSTIFICATION

Construction costs of the Navajo Indian project, including the costs of necessary storage at the Navajo Reservoir site on the San Juan River, are estimated at \$163 million, which would amount to more than \$1,500 an acre on the 105,000 acres to be served. The lands proposed to be irrigated are irregular and scattered areas of benches ranging from 5,000 to 6,200 feet in elevation and extending 16 to 40 miles southward from San Juan River. Principal land use would be the growing of alfalfa, pasture, grain, and beans, and the raising of sheep. Such uses will not support the cost of the proposed irrigation works.

For the initial phase of the San Juan-Chama project proposed for immediate authorization the construction costs chargeable to irrigation would be over \$50 million total, or \$200 to \$1,200 an acre on the various units. The proposed diversion would provide only a supplemental supply amounting to about 0.4 of an acre-foot of water per acre per annum. The costs per equivalent acre on a full water supply basis would be \$1,500 to \$9,000. In contrast the indicated value of improved land with a full water supply ranges from about \$130 to \$300 an acre according to the planning report of the Bureau of Reclamation.

Since the Navajo Dam and Reservoir previously authorized has been declared by the Reclamation Bureau to be an essential and integral part of the Indian irrigation project and since storage in that reservoir would also be needed in connection with the proposed diversion to the Rio Chama, the estimated construction cost of the Navajo Dam is included in the figures cited in the preceding paragraphs. To omit such storage costs in the economic appraisal, as was done in the Interior Department reports, would be unrealistic and misleading.

Independent calculations of benefit-cost ratios result in ratios considerably less than unity for both projects. For the Navajo Indian project the ratio is less than 0.5 to 1 and for the San Juan-Chama about 0.7 to 1. Although benefit-cost ratios are not the proper criteria for evaluation of projects under reclamation law, the ratios independently calculated are believed to be more truly indicative of the economic worth of the projects than the ratios shown in the Interior Department reports.

It appears from the foregoing that neither the Navajo project nor the San Juan-Chama project is economically justified.

#### FINANCIAL FEASIBILITY

The Secretary of the Interior proposes in his report that none of the costs of the Navajo project be reimbursed to the Federal Government, as provided in section 6 of the Storage Project Act. The Federal investment thus proposed, including interest on funds advanced during the construction and development periods, would amount to more than a quarter of a billion dollars by the time the project would be in full operation. This is about \$2,500 per acre of irrigated land and about \$240,000 for each farm family that would be located on the project. Annual interest alone at a rate of 3 per-



cent on the total investment would be nearly \$8 million a year or about 3 times the direct annual irrigation benefits estimated in the report. The investment of \$45,000 at 5 percent interest would provide the same annual family living allowances (\$2,250) that it is estimated in the report would result from the investment of \$240,000 per family in irrigation works.

As to the initial phase of the San Juan-Chama project, it appears that the municipal water users could repay with interest their share of the costs. But the irrigators could repay only about 16 percent of the costs allocated to irrigation according to the figures in the report. It appears questionable whether the irrigators would really be able to pay about \$9 per acre-foot for water at the site of use as estimated by the Reclamation Bureau, but even if they could, their payment would amount to only about 7 percent of the Federal investment, including interest.

The total capital subsidy to irrigation for the initial stage of the San Juan-Chama project, including interest during construction and deducting the present value of the estimated repayment by the irrigators, amounts to more than \$55 million. This is \$470 per acre of land for a small supplemental water supply and \$2,800 per acre on a full water supply basis. Annual interest alone on the total subsidy at 3 percent would be 25 percent greater than the direct annual irrigation benefits estimated in the report.

#### REPAYMENT FROM UPPER COLORADO RIVER BASIN FUND RESERVES

According to Department of Interior reports on the proposed projects, about \$45 million or some 84 percent of the irrigation investment on the San Juan-Chama project would be repaid from New Mexico's share of Upper Colorado River Basin fund reserves. No showing is made in the reports as to when or how these costs would or could be paid from the basin fund.

It is by no means certain—in fact, it appears highly questionable—that there will be sufficient net revenues accruing to the basin fund to meet the required repayments of the projects, including the 11 participating projects already authorized by Public Law 486, in compliance with the provisions of the act. It appears that repayment from the basin fund of \$45 million of the cost of the San Juan-Chama project would be so uncertain and far into the future as to be purely speculative. Hence, the project cannot be considered as financially feasible.

The foregoing summary with respect to the financial and economic aspects of the proposed projects is intended to provide information which may assist the committee and the Congress in the consideration of these factors. It is recognized that the final decision in regard to the authorization of proposed reclamation projects, from the standpoint of financial feasibility and economic justification as well as all other factors, must be made by the Congress with the approval of the executive department.

#### PROPOSED AMENDMENTS TO S. 8648

In connection with the further consideration of legislation for authorization of the proposed projects, the Colorado River board desires to propose certain amendments deemed essential to safeguard the rights and interests of California in and to the waters of the Colorado River system. Such amendments have been presented by Senator Kuchel and Mr. McCarty is available in connection with them.

Senator ANDERSON. Now I would be glad, Mr. Matthew, when you complete your examination of the testimony given in this hearing thus far, if you desire to supplement that with additional comments we will leave the record open for that purpose.

Mr. MATTHEW. Thank you.

Senator KUCHEL. Thank you, sir.

Senator ANDERSON. Off the record.

(Whereupon, an off-the-record discussion was had.)

Senator ANDERSON. Off the record.

The Senator from California has offered the document entitled "State of California Department of Water Resources—Review of Federal Reports Pursuant to Public Law 534" for the files of the committee. If, upon further examination of this document, the Senator views that portion of it should be printed in the record at this point, he may indicate to the committee those portions he would prefer to have printed in the record. It will be incorporated by reference in the record.

Senator KUCHEL. Thank you, sir.

Mr. Chairman, may Mr. Matthew make an additional statement for the record?

Senator ANDERSON. Surely, Mr. Matthew.

Mr. MATTHEW. Mr. Chairman, my statement refers to some exhibits which were submitted and received at the trial in San Francisco of *Arizona v. California et al.*, a few days ago.

These exhibits were in connection with the testimony of Mr. John R. Erickson and I think to complete the record it might be desirable to have these exhibits included and printed in the record following my statement.

It has to do with the water supply of the Colorado River in the testimony presented on Arizona's behalf as to their interpretations concerning the water supply.

Senator ANDERSON. The report entitled "Views and Recommendations of the State of California on Proposed Coordinated Report of the Secretary of the Interior on San Juan-Chama Project, Colorado-New Mexico, and Navajo Project, New Mexico" is incorporated in the record by reference.



(The exhibits referred to by Mr. Matthew are as follows.)

PLAINTIFF'S EXHIBIT No. 358

Estimate of release from upper basin for Mexican treaty obligation under assumptions relating thereto and remaining Lee Ferry virgin flow available for regulation, use, and/or release

[Unit, 1,000 acre-feet]

Table with 7 columns: (1) Water year, (2) Virgin flow of Colorado River at Lee Ferry, (3) Excess flow above 15,000, (4) Assumed release for Mexican treaty obligations, (5) Losses on treaty releases (20 percent), (6) Total release for treaty obligation, (7) Remaining Lee Ferry virgin supply.

1 Calculated according to following assumptions: (1) Flow at Lee Ferry over 15,000,000 acre-feet available to satisfy Mexican Treaty obligation. (2) Flow enough to deliver 1,500,000 at international boundary (including transportation losses). (3) Flow available for regulation, use, and/or release. (4) If (1) insufficient to supply requirements of (2), all flow above 15,000,000 acre-feet released for Mexican Treaty obligation and 1/2 of deficiency, plus transportation losses reduced to Lee Ferry flow for this purpose. (5) If total virgin flow less than 15,000,000 acre-feet plus transportation losses released for Mexican Treaty obligation.

PLAINTIFF'S EXHIBIT No. 359

Operating characteristics of upper basin reservoirs with 25,000,000 acre-feet effective storage; 5,700,000 acre-feet annual depletion at Lee Ferry; 75,000,000 acre-feet releases per 10-year period to lower basin, plus spills; and releases for Mexican Treaty obligation 1909-56: Summary of operation study

[Unit, 1,000 acre-feet]

Table with 7 columns: (1) Water year, (2) Remainder of virgin flow after Mexican obligation release, (3) Col. (2) less 5,700, (4) Annual flow at Lee Ferry to supply 75,000,000 acre-feet in 10 years plus spills, (5) Continuing progress to conserve 10 years, (6) Effective reservoir storage content at end of year, (7) Spill.



PLAINTIFF'S EXHIBIT No. 559—Continued

Operating characteristics of upper basin reservoirs with 25,000,000 acre-foot effective storage; 5,700,000 acre-foot annual depletion at Lee Ferry; 75,000,000 acre-foot releases per 10-year period to lower basin, plus spills; and releases for Mexican Treaty obligation, 1909-56: Summary of operation study—Col.

Water year	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Remainder of virgin flow after Mexican obligation release	Col. (2) less 5,700	Annual flow at Lee Ferry to supply 75,000,000 acre-foot in 10 years, plus spills	Continuing progressive series of 10 consecutive years	Effective reservoir storage content at end of year	Spill	
1925		6,433	6,433	192,577	25,000	1,677	
1926		6,422	6,762	195,261	25,000	2,684	
1927		10,116	10,116	99,840	25,000	0	
1928		13,628	10,779	101,073	25,000	1,233	
1929		8,285	13,628	109,139	25,000	8,068	
1930		8,285	8,285	102,973	25,000	0	
1931		0	1,169	88,627	25,000	0	
1932		0	0	87,555	25,000	0	
1933		0	0	81,532	25,000	0	
1934		0	0	75,000	22,991	0	
1935		0	0	75,000	21,507	0	
1936		0	0	75,000	19,995	0	
1937		0	0	75,000	18,989	0	
1938		0	0	75,000	16,255	0	
1939		0	0	75,000	6,802	0	
1940		0	0	75,000	0	0	
1941		0	0	75,000	0	0	
1942		0	0	75,000	0	0	
1943		0	0	75,000	0	0	
1944		0	0	75,000	0	0	
1945		0	0	75,000	0	0	
1946		0	0	75,000	0	0	
1947		0	0	75,000	0	0	
1948		0	0	75,000	0	0	
1949		0	0	75,000	0	0	
1950		0	0	75,000	0	0	
1951		0	0	75,000	0	0	
1952		0	0	75,000	0	0	
1953		0	0	75,000	0	0	
1954		0	0	75,000	0	0	
1955		0	0	75,000	0	0	
1956		0	0	75,000	0	0	

PLAINTIFF'S EXHIBIT No. 390

Colorado River—Net inflow to Lake Mead, 1909-56, with 25,000,000 acre-foot effective river regulation storage in upper basin; and 5,700,000 acre-foot annual depletion by upper basin at Lee Ferry; and releases at Lee Ferry for Mexican Treaty obligation

Water year	(1)	(2)	(3)	(4)	(5)
	Annual flow at Lee Ferry to supply 75,000,000 acre-foot in 10 years, plus spills	Releases at Lee Ferry for Mexican Treaty obligation	Estimated historic net gain, Lee Ferry to Hoover Dam via exhibit 2207	Net Inflow to Lake Mead	
1909	11,116	1,800	1,596	14,512	
1910	9,779	1,800	1,865	12,044	
1911	13,628	1,517	1,949	17,394	
1912	8,285	1,800	1,800	10,914	
1913	1,169	1,800	862	8,031	
1914	9,743	1,800	1,816	12,839	
1915	4,756	1,800	1,183	6,789	
1916	6,058	1,800	1,774	9,582	
1917	16,637	1,800	1,963	16,330	
1918	8,646	1,118	1,018	10,682	
1919	6,862	900	817	7,679	
1920	14,451	1,800	1,090	17,231	
1921	15,615	1,800	1,975	18,290	
1922	10,803	1,800	2,053	14,558	
1923	10,769	1,800	1,657	14,256	
1924	6,801	900	609	9,110	
1925	6,433	900	701	8,034	
1926	8,742	1,411	749	10,902	
1927	11,116	1,800	975	13,891	
1928	9,779	1,800	694	12,278	
1929	13,628	1,800	822	16,650	
1930	8,285	900	576	9,897	
1931	1,169	1,800	1,370	2,917	
1932	4,756	1,800	694	6,350	
1933	1,049	900	475	2,424	
1934	6,433	900	865	8,198	
1935	8,742	900	725	10,367	
1936	11,116	900	1,308	13,308	
1937	9,779	1,800	1,292	12,816	
1938	13,628	1,800	1,737	15,565	
1939	8,285	900	716	9,941	
1940	1,169	1,800	1,505	4,474	
1941	4,756	1,800	1,762	6,448	
1942	6,433	900	865	8,064	
1943	8,742	900	580	10,172	
1944	11,116	1,183	713	13,012	
1945	9,779	1,267	600	11,606	
1946	13,628	1,726	725	16,879	
1947	8,285	900	619	9,800	
1948	1,169	1,800	407	2,325	
1949	4,756	1,800	1,309	6,865	
1950	6,433	900	638	8,002	
1951	8,742	900	509	9,691	
1952	11,116	900	477	10,699	
1953	9,779	1,414	467	10,692	
1954	13,628	1,260	947	14,488	
1955	8,285	823			
1956	8,742	900			
Total	305,095	61,414	46,472	501,981	
Average 1909-56	8,231	1,260	947	10,488	

[Unit, 1,000 acre-feet]



Operating characteristics of Lake Mead with 25,000,000 acre-feet upper basin effective storage; 6,700,000 acre-feet annual depletion at Lee Ferry; 75,000,000 acre-feet releases per 10-year period to lower basin, plus spills; and releases for Mexican treaty obligation 1909-56; operation study

Water year	Inflow to Lake Mead			End-of-year storage			Average reservoir elevation	Average reservoir area	Reservoir evaporation	Sustained annual release	Spill or short
	Net river inflow	From precipitation	Total inflow	Bank	Surge	Total					
1908	14,512	13	14,525	0	0	4,655	1,007	309	270	9,600	9,600
1909	12,044	18	12,062	748	5,988	6,736	1,008	307	270	9,600	9,600
1910	10,914	26	10,940	1,639	12,473	14,112	1,008	323	270	9,600	9,600
1911	10,914	29	10,943	1,639	12,473	14,112	1,008	323	270	9,600	9,600
1912	12,958	26	13,024	3,057	9,967	13,024	1,008	323	270	9,600	9,600
1913	8,074	26	8,100	1,162	6,938	8,096	1,008	323	270	9,600	9,600
1914	12,689	26	12,715	1,162	11,553	12,715	1,008	323	270	9,600	9,600
1915	6,789	22	6,811	799	6,012	7,610	1,048	353	270	9,600	9,600
1916	6,789	22	6,811	799	6,012	7,610	1,048	353	270	9,600	9,600
1917	9,852	20	9,872	753	9,119	9,872	1,048	353	270	9,600	9,600
1918	19,330	31	19,361	1,770	17,591	19,361	1,077	359	270	9,600	9,600
1919	10,682	31	10,713	1,235	14,478	15,713	1,122	359	270	9,600	9,600
1920	7,279	80	7,359	1,112	12,266	13,378	1,112	359	270	9,600	9,600
1921	17,281	32	17,313	2,312	18,493	20,805	1,131	359	270	9,600	9,600
1922	14,658	45	14,703	3,133	25,095	28,228	1,184	359	270	9,600	9,600
1923	14,256	41	14,301	3,174	25,045	28,219	1,207	359	270	9,600	9,600
1924	9,110	44	9,154	2,753	23,788	26,541	1,203	359	270	9,600	9,600
1925	8,074	42	8,116	2,703	21,630	24,333	1,191	359	270	9,600	9,600
1926	10,902	41	10,943	2,753	22,023	24,776	1,185	359	270	9,600	9,600
1927	13,691	43	13,734	3,121	24,907	28,028	1,197	359	270	9,600	9,600
1928	13,691	43	13,734	3,121	24,907	28,028	1,197	359	270	9,600	9,600
1929	16,650	45	16,695	3,113	28,008	31,121	1,207	359	270	9,600	9,600
1930	2,587	44	2,631	3,019	24,223	27,242	1,205	359	270	9,600	9,600
1931	2,587	39	2,626	2,472	17,830	20,452	1,177	359	270	9,600	9,600
1932	6,350	36	6,386	2,016	16,124	18,140	1,164	359	270	9,600	9,600
1933	4,294	36	4,330	2,458	12,119	14,577	1,160	359	270	9,600	9,600
1934	2,424	29	2,453	1,163	8,217	10,380	1,105	359	270	9,600	9,600
1935	8,198	23	8,221	1,914	7,522	8,436	1,055	359	270	9,600	9,600
1936	10,267	22	10,289	1,980	7,836	8,816	1,046	359	270	9,600	9,600
1937	13,308	23	13,331	1,336	10,690	12,026	1,066	359	270	9,600	9,600
1938	12,816	23	12,844	1,336	13,041	14,671	1,066	359	270	9,600	9,600
1939	15,566	23	15,589	2,219	17,763	19,972	1,131	359	270	9,600	9,600

Water year	Inflow to Lake Mead			End-of-year storage			Average reservoir elevation	Average reservoir area	Reservoir evaporation	Sustained annual release	Spill or short
	Net river inflow	From precipitation	Total inflow	Bank	Surge	Total					
1940	9,041	26	9,067	2,177	17,417	19,594	1,161	359	270	9,600	9,600
1941	12,603	30	12,633	1,691	14,408	16,299	1,111	359	270	9,600	9,600
1942	6,448	29	6,477	1,385	11,077	12,462	1,106	359	270	9,600	9,600
1943	2,906	22	2,928	690	4,233	5,913	1,049	359	270	9,600	9,600
1944	8,064	16	8,080	3,456	3,072	3,456	987	359	270	9,600	9,600
1945	10,172	16	10,188	415	3,733	4,148	1,011	359	270	9,600	9,600
1946	13,030	18	13,048	753	6,042	6,795	1,001	359	270	9,600	9,600
1947	11,606	21	11,627	932	7,433	8,365	1,033	359	270	9,600	9,600
1948	16,379	20	16,409	1,626	14,757	16,383	1,078	359	270	9,600	9,600
1949	9,800	29	9,829	1,632	12,657	14,289	1,106	359	270	9,600	9,600
1950	12,859	25	12,884	1,056	8,437	9,492	1,067	359	270	9,600	9,600
1951	6,133	21	6,154	741	5,924	6,665	1,067	359	270	9,600	9,600
1952	2,607	14	2,621	624	4,998	5,612	1,033	359	270	9,600	9,600
1953	8,001	10	8,011	0	0	0	896	359	270	9,600	9,600
1954	10,099	10	10,109	35	278	313	896	359	270	9,600	9,600
1955	12,991	10	12,991	0	0	0	896	359	270	9,600	9,600
1956	10,099	10	10,109	35	278	313	896	359	270	9,600	9,600
Average 1909-56	601,981	1,273	603,254	503,354	10,457	513,811	1,126	359	270	9,600	9,600
Total	1,048,981	1,273	1,050,254	853,354	17,417	185,811	1,126	359	270	9,600	9,600

Per California exhibit 2208-A.



PLAINTIFF'S EXHIBIT No. 366

Summary of water supply available on long-term basis from main stream of Colorado River in lower basin on basis of 35 million acre-foot upper basin effective storage

	[Units, 1,000 acre-feet]
1. Virgin flow of Colorado River at Lee Ferry	15,200
2. Upper basin depletion at Lee Ferry	6,200
3. Inflow to lower basin at Lee Ferry (1 minus 2)	9,000
4. Net gain, Lee Ferry to Hoover Dam	950
5. Evaporation from Lake Mead	450
6. Water available from Lake Mead:	
(a) Regulated releases	9,500
(b) Spills	0
7. Evaporation from reservoirs, Hoover Dam to boundary	300
8. Usable inflow from Bill Williams River and miscellaneous	75
9. Natural river losses, Hoover Dam to upper Mexican boundary	880
10. Salvage of river losses due to channelization:	
(a) Davis Dam to Topock	150
(b) Parker Dam to international boundary	170
11. Usable inflow from Gila River	0
12. Guaranty to Mexico	1,500
13. Regulation waste (Mexican delivery)	75
14. Net usable supply for lower basin from main stream (6c minus 7 plus 8 minus 9 plus 10 plus 11 minus 12)	7,400

Senator ANDERSON. Let me say that I appreciate very much the willingness of the California people to shorten this hearing, and, as I have indicated, I hope that we have given you an opportunity to put in your material, and if not, I hope the Senator from California, who is a very good and valid member of this committee, will come forward with additional information, as suggested, to supplement the record.

Senator KUCHEL. Thank you very much.  
 Senator ANDERSON. Before we close the record, I will ask that a letter addressed to me dated June 30, 1958, from Mr. Ival V. Goslin, engineer-secretary of the Colorado River Commission, plus a memorandum to the Upper Colorado River Commission, dated April 25, 1956, be inserted in the record.  
 (The letter and memorandum referred to follow.)

LETTER FROM UPPER COLORADO RIVER COMMISSION  
 UPPER COLORADO RIVER COMMISSION,  
 Grand Junction, Colo., June 30, 1958.

Hon. CLAYTON P. ANDERSON,  
 Chairman, Subcommittee on Irrigation and Reclamation, Interior and Insular Affairs Committee, United States Senate, Senate Office Building, Washington, D. C.

DEAR SENATOR ANDERSON: In the proviso of section 5 (e) of Public Law 485, act of April 11, 1956 (70 Stat. 105), it was intended that revenues remaining in the upper Colorado River Basin fund derived from any participating project authorized by the act or to be authorized in the future after payments for operation and maintenance, section 5 (c) (1), power features 5 (d) (1), municipal water 5 (d) (2), and interest on power and municipal water feature 5 (d) (3), shall be apportioned to the State in which the participating project is located. This proviso is of special significance to a State that has a participating project with power and/or municipal water; such as New Mexico with the San Juan-Chama project.

In the process of printing and engraving Public Law 485, the phrase "herein or hereinafter authorized" in the proviso of section 5 (e), became changed to "herein or hereinafter authorized." The use of the word "hereinafter" creates a nullity. It causes part of the proviso to be void of any legal effect, because there are no participating projects authorized hereinafter by the act. As now written, the

act fails to provide that the revenues from a participating project authorized in the future shall be credited to the State in which it is located.  
 It should be noted that the central Utah project being authorized by the act, its revenues are to be credited to the State of Utah. Excess revenues from the storage units, such as Glen Canyon, are of course, apportioned among the four upper division States according to the percentages of section 5 (e). Unless the word "hereinafter" is changed to "hereafter" in the proviso of section 5 (e), there is no basis for crediting excess revenues of participating projects authorized subsequent to the act of April 11, 1956, to the State in which the project is located.

There are two other errors of less serious nature in the act. In section 1, after the words "central Utah (initial phase)" a semicolon has been used instead of a comma.  
 In section 7, in the phrase "and any contract lawfully entered into under said compacts and acts", the word "into" should be changed to "into."

Because of the effect of the first error discussed above, it is suggested that you may wish to correct these errors in Public Law 485, by adding a section to S. 3648 to authorize the San Juan-Chama and Navajo Indian irrigation projects similar to the following:

"Sec. —. The act of April 11, 1956 (70 Stat. 105) is hereby amended as follows: (1) in section 1, subsection (2), after 'Central Utah (initial phase)', delete the semicolon and insert in lieu thereof a comma; (ii) in section 5, subsection (e) in the phrase 'herein or hereinafter authorized' delete the word 'hereinafter' and insert in lieu thereof the word 'hereafter'; (iii) in section 7 in the phrase 'and any contract lawfully entered into under said compacts and acts' delete the word 'into' and insert in lieu thereof the word 'into.'"

An explanation of how the above errors occurred is to be found in my memorandum of April 25, 1956, to the Upper Colorado River Commission. A copy of this memorandum is enclosed.  
 Sincerely yours,

IVAL V. GOSLIN, Engineer-Secretary.

MEMORANDUM TO UPPER COLORADO RIVER COMMISSION

UPPER COLORADO RIVER COMMISSION,  
 Grand Junction, Colo., April 25, 1956.

MEMORANDUM TO: Upper Colorado River Commission.  
 From: Ival V. Goslin, engineer-secretary.  
 Subject: Errors in Public Law 485 (S. 500) to authorize the construction of the Colorado River storage project.

There are three errors in Public Law 485 (S. 500) as finally passed by the Congress and approved by President Eisenhower. These errors are as follows:

1. In section 1, on page 1, in line 31 after the parentheses "(initial phase)" there is a semicolon. A comma should have been used.
2. In section 5, section (e), on page 3, in the next to last line, the last word is "hereinafter." The word should be "hereafter."
3. In section 7, on page 5, in line 10, the eighth word is "into." It should be "into."

At the present time these errors are of little or no consequence. However, they should be on record with the Commission and with each State because when authorization is sought for additional participating projects it will be necessary, at least, in the case of No. 2 above, to amend the original bill.

In the case of error No. 1 which involves the use of a semicolon after "(initial phase)" the meaning is clear although the semicolon has been used. Therefore, there is little to worry about except to make the language grammatically correct.

As far as error No. 2 is concerned the situation is entirely different. The use of the word "hereinafter" in the way it is employed in this instance creates a nullity. It actually causes this clause in the act to be void of any legal effect because there are no participating projects authorized hereinafter in the act. The word should have been, and originally was, "hereafter," because it was meant to apply to participating projects which will be authorized in the future. It is evident, therefore, that in this case before any future participating projects are requested to be authorized, the original bill should be amended to strike the word "hereinafter" in section 5, subsection (3), on page 3, the last word in the next to the last line and substitute in lieu thereof the word "hereafter," meaning future.



With respect to the third error which involves the use of the word "into" instead of "into" there is an obvious misuse of the word. To perfect the language this word should also be changed at some suitable time to "into" by amendment to the bill.

A brief explanation of why these errors appear in the bill may be in order. These errors did not appear in the mimeographed draft of bill dated February 8, 1956, which was prepared by the Commission Secretary after many conferences with Congressmen from the upper basin States and which contained the proposed committee amendments. This draft was used as a working draft by the members of the House Interior and Insular Affairs Committee in their deliberations prior to the filing of part 2 of Report 1087. They did not adopt in the language of the draft of the bill which the House committee adopted and which went to the floor of the House for passage in part 2 of Report 1087. These errors first appeared in the working draft of the conference report entitled "Final Conference Committee Print" agreed to by conferees March 15, 1956. It was agreed at the time that this document was only a working draft and that all corrections necessary would be made in it by the conferees prior to the submitting of the conference report and statement of the managers to the House and Senate for adoption.

The next place where these errors occur is in the conference report, Report No. 1950, 84th Congress, 2d session, House of Representatives, ordered to be printed on March 27, 1956. This document was not available for scrutiny until the morning of March 28, 1956. On March 28, 1956, it was approved by both the House of Representatives and the Senate. Therefore, there was insufficient time to call these errors to the attention of anyone without causing delay in adoption of the conference report. It was also believed that because these errors were so obviously due to faulty proofreading at the Government Printing Office they could be changed in the engrossed bill which would be sent to the President for signature. On the morning of March 29, while checking the language of the conference report as passed by the House and the Senate for the engrossed bill, inquiries were made of the House Parliamentarian, and it was ascertained that these changes could not be made in the engrossed bill which the President would sign.

At this point the only manner in which the changes could be made would have been by a joint resolution to be presented before both the House and the Senate, which would, in effect, amend the bill as passed. Because there had been so much criticism of the language of the bill by some of the opponents who had stated that the bill would provide at least a 50-year bonanza for lawyers, those in charge of the bill decided to leave the language in the engrossed bill the same as that which passed the Congress in the conference report and then at some future date when additional participating projects are requested, request that the changes be made by amendments to the original bill.

Of course, there is the possibility that some of the opponents of this legislation who are interested in delaying the progress of the upper basin may seize upon one or more of these points as legal technicalities. However, from the nature of the errors which at this time have little or no effect on the program authorized, a challenge on technicalities is not expected.

IVAN V. GOSLIN.

Senator ANDERSON. That concludes our hearing.

(Whereupon, at 10:45 a. m., Thursday, July 10, 1958, the subcommittee adjourned.)

(Senator Anderson subsequently directed that the following material be inserted in the transcript.)

LETTERS FROM GOVERNOR MEEHEM ON CALIFORNIA'S PROPOSED AMENDMENTS

STATE OF NEW MEXICO,  
Santa Fe, N. Mex., July 21, 1958.

HON. CLINTON F. ANDERSON,  
United States Senate,

Senate Office Building, Washington, D. C.

DEAR SENATOR ANDERSON: Your letter of July 10 requests the comments of the State of New Mexico on a series of proposed amendments to S. 3643 which were

submitted by Senator Kuchel on behalf of the Colorado River Board of California.

New Mexico's comments on the proposed amendments are as follows:

*Amendments to section 1*

The stated purpose of the proposed amendments is "to clear up any possible confusion by making it plain that only the initial stage is approved, and that only that stage is intended to be authorized." New Mexico believes that S. 3648 in its present form clearly authorizes only the initial stage of the San Juan-Chama project for the diversion of an average of 110,000 acre-feet per annum. New Mexico also believes that congressional approval of the ultimate project for the diversion of an average of 235,000 acre-feet per annum is necessary to give the Secretary of the Interior authority to provide excess capacity in the initial stage tunnel and conduit works to accommodate possible subsequent stages of the project. If the 235,000-acre-foot project is not approved the legislation authorizing the initial stage might later be interpreted to require the most economic construction of the initial stage with no excess capacity provided.

The necessity for including excess capacity in the works of the initial stage project is discussed at pages 11 and 12 of the statement presented to your subcommittee on July 9 by S. E. Reynolds and John H. Bliss. That discussion is quoted here for your convenience.

"Senate bill 3648, in addition to authorizing an initial stage of the San Juan-Chama project for an average annual diversion of 110,000 acre-feet, would give congressional approval of an ultimate plan for a diversion averaging 235,000 acre-feet per year. The Secretary of the Interior's 1955 feasibility report on the San Juan-Chama project describes such a plan and shows it to be feasible. However, estimates of anticipated power revenue credits available to New Mexico, as set forth in the Secretary's Financial and Economic Analysis of the Colorado River Storage Project make it appear that a number of years must elapse before construction beyond an initial stage for the diversion of 110,000 acre-feet can be undertaken. It is impossible to know at this time whether the 125,000 acre-feet per year which might be imported to the Rio Grande by subsequently authorized stages of the project will ultimately be more urgently needed in the San Juan Basin. For this reason New Mexico seeks authorization for only the initial stage constructed in substantial accordance with the plan described in the 1957 supplemental report.

The Secretary's 1955 feasibility report tabulates additional water requirements in the Rio Grande Basin amounting to 315,000 acre-feet per year presently, and 241,500 acre-feet per year within 50 years. Potential requirements which have come to light since the completion of the report through notices of intention filed with the State engineer include 50,000 acre-feet per year for defense activities and related requirements in the Tularosa Basin for New Mexico, 5,000 acre-feet per year for the city of Santa Fe, and 3,000 acre-feet per year for the city of Los Alamos. We are filing with this statement copies of these notices of intention and a notice of intention filed by the city of Albuquerque.

In view of the foregoing there can be no doubt that it may be necessary to import up to 235,000 acre-feet per year for high order uses in the Rio Grande Basin. Accordingly, the State considers it essential that the capacity of the conduit system of the initial stage of the diversion project be adequate to accommodate a possible ultimate diversion averaging 235,000 acre-feet per annum. If the tunnel and conduit system of the initial stage is constructed for a diversion averaging only 110,000 acre-feet per year the construction costs of the initial stage could be reduced by about \$28 million, but the importation of additional amounts of water would then require paralleling of the original tunnel and conduit system. The cost of providing the additional capacity would then amount to about \$15 million as compared to \$28 million under the plan advanced in the supplemental report.

It is recognized that, if the contemplated future needs in the Rio Grande Basin are not met with San Juan water, about \$28 million of the initial stage construction costs for tunnel and conduit capacity over and above that required for the diversion of 110,000 acre-feet per year will have to be met with power revenue credits allocated to New Mexico. The State feels amply justified in this commitment of power revenue credits to maintain flexibility in the distribution of its water resources.

New Mexico considers the proposed amendments to section 1 of S. 3643 to be unacceptable.



*Amendment to section 6*

The first purpose of the proposed amendment to section 6 is to provide a disclaimer of any commitment to the ultimate stage of the San Juan-Chama diversion project. S. 3648 in its present form clearly does not commit either the Federal Government or the State to subsequent stages of the project. However, congressional approval of the ultimate project does make it possible for the State to seek authorization of subsequent stages of the project if such stages appear desirable at a later time. The State considers such approval essential for the reasons that are set forth above.

The Colorado River Board of California states that the second purpose of the amendment to section 6 is to "avoid the problems which can result for other basin works in the extreme variations in diversions which may be made." I can find no foundation for California's touching concern over the possible detrimental effects of transmountain diversions on other upper basin water uses. I have touched on this problem at pages 9 and 10 of the statement which I presented to your subcommittee on July 9. That discussion is reproduced here for your convenience.

The main storage reservoir of the San Juan-Chama project will be constructed in the Rio Grande Basin on the east side of the Continental Divide. It will be necessary, in years when the San Juan River has a good water supply, to export and store amounts of water substantially greater than the average annual diversion in order that the needs of water users under the project can be met in years when little water is available for exportation. While the amount of water exported may vary widely from year to year, the annual amount drawn from storage will, of course, be fairly uniform.

In her comments California appears to contend that water exported from the Upper Basin must be accounted as a consumptive use in the year exported even though the water is stored out of the basin for use in a later year. California further contends that with exported water thus accounted for the total consumptive use in the Upper Basin may not exceed 7.5 million acre-feet in any year. California's implication is that, when consumptive uses in the Upper Basin approach the limit allowed by the 1922 compact, it would be necessary to reduce in-basin consumptive use in years when larger than average amounts of water are exported for out-of-basin storage.

New Mexico takes the position that, even if article III (a) of the compact were construed to set the upper limit of beneficial consumptive use in any year rather than the average, it is perfectly clear that water which has been exported and stored has not been applied to beneficial consumptive use any more than water stored within the basin. Water cannot properly be accounted as beneficially consumed under the provisions of the compact until it has been released from storage for use or is actually consumed by evaporation.

It is obvious that California cannot in good conscience request the importation of the 1922 compact is not a one-way street, but is a solemn agreement between the States of the basin, providing for and guaranteeing the water requirements for all of the States.

California's interests in this matter are fully protected by the Colorado River compact and the other States of the Upper Basin are fully protected by the Upper Colorado River Basin compact. Attention is specifically invited to article IV (b) of the latter compact which reads as follows: "If any State or States of the upper division, in the 10 years immediately preceding the water year in which curtailment is necessary, shall have consumptively used more water than it was or they were, as the case may be, entitled to use under the apportionment made by article III of this compact, such State or States shall be required to supply at Lee Ferry a quantity of water equal to its, or the aggregate of their, overdraft or the proportionate part of such overdraft, as may be necessary to assure compliance with article III of the Colorado River compact, before demand is made on any other State of the upper division."

A provision limiting the transmountain diversion to an aggregate of 1,100,000 acre-feet in any period of 10 consecutive years would make it impossible for the project to make the best possible use of the storage to be constructed in the Rio Grande Basin and would induce unnecessary shortages adversely affecting project feasibility and operation. New Mexico finds the proposed amendment to section 6 unacceptable.

*Proposed new section subjecting projects to the law of the river*

Subsection (a) appears only to make the use of water under the projects to be authorized subject to the law of the river. New Mexico's only objection to

such provision would be that it amounts only to a reiteration of section 14 of Public Law 485 and is, therefore, unnecessary. However, the State would not press this objection. It also appears that the Boulder Canyon Project Act has no applicability to water uses under the projects to be authorized by S. 3648 and, that, reference to that act should be deleted from subsection (a).

Since Public Law 485 reaffirms that the uses that would be authorized by S. 3648 are subject to the law of the river subsection (b) of the proposed new section also appears to be superfluous. It does appear that subsection (b) might facilitate and encourage a multiplicity of suits and New Mexico, therefore, finds this subsection unacceptable.

Subsection (c) of the proposed amendment would provide that no waters exported from the Colorado River system shall be made available for consumptive use in any State not a party to the Colorado River compact by exchange or substitution or by use of return flow.

I have discussed this question at pages 8 and 9 of the statement which I presented to your subcommittee on July 9, and that discussion is reproduced here for your convenience.

The amendment recommended by California would provide that none of the waters of the Colorado River System shall be made available for consumptive use in any State not a party to the Colorado River compact by exchange, substitution or return flow. Any transmountain diversion results in comingling imported waters with in-basin waters. When the waters are once comingled imported water cannot be used without involving, to some degree, substitution or exchange with in-basin water. In the instance of almost every possible Upper Basin transmountain diversion there are downstream States, not parties to the Colorado River compact, which have rights to a portion of the in-basin waters and, therefore, substitution or exchange of imported water for in-basin water in which other States may have rights, is inescapable. The Colorado River compact provides for transmountain diversion projects and thus by any common sense construction of its provisions permits substitution or exchange. New Mexico maintains her right to substitute or exchange Colorado River water for Rio Grande water in which Texas may have a right.

California asserts that New Mexico would violate the Colorado River compact should one drop of return flow from imported Colorado River water pass down the Rio Grande to another State. New Mexico believes that, if the imported water is put to beneficial use within her boundaries, the escape of return flow to Texas would not constitute a violation of the 1922 compact. However, New Mexico contemplates that in this instance the imported water will be so measured and managed that its equivalent will be fully consumed within the State.

I would amplify the above comments by pointing out that the Metropolitan Water District exports large amounts of Colorado River water for municipal and industrial use and that a large portion of that exported water is wasted to the Pacific Ocean as effluent from sewage treatment plants or return flow. It appears ridiculous to hold that return flow wasted to the Pacific Ocean does not constitute a violation of the Colorado River compact while return flow escaping past New Mexico's borders for possible beneficial use in another State does constitute such a violation.

New Mexico finds subsection (c) of the proposed new section unacceptable.

New Mexico has no objection to subsection D of the proposed new section, but suggests that reference to the Boulder Canyon project be deleted since this act has no application to water uses under the projects to be authorized.

*Proposed new section re quality of water studies*

New Mexico believes that this amendment would direct the Secretary of the Interior to institute studies which are impracticably broad in scope, especially inasmuch as he would be directed to study the effects of indefinite, proposed water uses throughout the Colorado River system. However, New Mexico is in accord with the general purpose of this amendment and would not press objection to the amendment in its present form.

*Proposed new section re litigation and State water rights*

New Mexico strenuously objects to this proposed new section and adopts all of the objections set forth in the Assistant Secretary of the Interior's letter of July 24, 1957 to the Honorable Clare Engle (see pp. 168 and 170 inclusive, Hearings, H. R. 684, Serial No. 11) insofar as those objections are applicable to the amendment in the form proposed. A copy of that letter is attached hereto for your convenience.



The proposed amendment would accomplish substantial changes in the law of the river and also would attempt to resolve conflicts between the water right laws of the States and the Federal Government of the Colorado River Basin. Regardless of the merits of the enactment of such legislation, a bill authorizing individual projects is not the proper vehicle. From a selfish point of view New Mexico would point out that Senator Barrett's "Water Rights Settlement Act" (S. 863) which attempts to resolve these conflicts has been before the Congress for more than 2 years and the issues involved in that proposed legislation appear far from resolved. It is not fair to delay the authorization of projects which are vital to New Mexico by involving in S. 3648 these unresolved issues.

*Proposed new section, re limitation on transmountain diversions*

This proposed section is in effect an amendment of the Colorado River compact of 1922. Even if such an amendment were desirable, the incorporation of the proposed section in S. 3648 would be an improper procedure for accomplishing the compact amendment. The Colorado River Board of California apparently proposes this section because of its concern over the effect of transmountain diversions on the quality of water available for use in the lower basin. This concern is ill founded. I have discussed the subject of the effect of transmountain diversions on quality of water in the statement which I presented to your subcommittee on July 9 and this discussion is reproduced here for your convenience.

The State of New Mexico and the other States of the Upper Colorado River Basin intend to comply fully with the several documents which comprise the law of the river. Public Law 485 (the Colorado River Storage Project Act of 1956) reaffirms these documents. A reiteration of their principles in the present legislation is unnecessary because the law of the river is already clearly established.

The Colorado River compact of 1922 allocated 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. The compact also stated that present perfected rights to the beneficial use of waters of the Colorado River system are unimpaired by this compact. This latter is a simple declaration of fact. It is self-evident that the consumptive use of 7,500,000 acre-feet of water above Lee Ferry will inevitably change both the quantity and quality of the remaining flows to the lower basin and the signatories agreed that these changes would not impair present perfected rights. Aside from this, however, the assumed detriment to the lower basin users by reason of transmountain diversions of 'good quality' water is a misconception which should be laid to rest once and for all time.

The mechanics of successful irrigation require that dissolved solids in the water be flushed out by drainage and return flows to the stream; otherwise the salts would accumulate in the soils and the growing of crops would soon become impossible. Thus the water is consumed while the dissolved solids are retained in the residual stream flows. Since transmountain diversions remove both salts and water from the basin, the remaining supply is actually of better quality than would result had the same water been consumed in the basin. Thus California appears to be misguided, or misguiding, when she focuses her objections on transmountain diversion projects.

The Porportion of New Mexico's rightful share of the waters of the Colorado River system which is devoted to transmountain diversion projects is not a proper concern of the Colorado River Board of California.

Your courtesy in providing New Mexico the opportunity to comment on the amendments proposed by the Colorado River Board of California is sincerely appreciated.

Sincerely,

E. L. MECHEM  
Governor of New Mexico

LETTER FROM GOVERNOR MECHEM OF RIO GRANDE WATER

STATE OF NEW MEXICO,  
July 21, 1958

Hon. CLINTON P. ANDERSON,  
United States Senate,

Senate Office Building, Washington, D. C.

DEAR SENATOR ANDERSON: Your letter of July 10, 1958 requests the comments of the State of New Mexico on an amendment to section 6 of S. 3648 which was offered by representatives of the State of Texas.

I believe that Texas and New Mexico are in agreement as to the principles of the proposed amendment. Wording which is satisfactory to the State of New Mexico is set forth in the attachment hereto.

Your courtesy in providing New Mexico an opportunity to comment on this proposed amendment is sincerely appreciated.

Sincerely,

E. L. MECHEM, Governor.

PROPOSED AMENDMENTS TO SECTION 6

Add to section 6 of S. 3648:

"Provided: (a) All works of the project, both in its initial stage and in its final development, shall be constructed so as to permit compliance physically with all provisions of the Rio Grande compact, and all such works shall be operated at all times in conformity with the Rio Grande compact.

"(b) The amount of water diverted in the Rio Grande Basin for uses served by the San Juan-Chama project shall be limited in any calendar year to the amount of imported water available to such uses from importation to and storage in the Rio Grande Basin in that year.

"(c) Details of project operation essential to the accounting of diverted San Juan and Rio Grande flows shall be cooperatively developed through the joint efforts of the Rio Grande Compact Commission, the appropriate agencies of the United States and of the States of Colorado, New Mexico, and Texas, and the various project entities. In this connection the States of Texas and New Mexico shall agree, within a reasonable time, on a system of gaging devices and measurements to secure data necessary to determine the present effects of tributary irrigation, as well as present river channel losses: *Provided*, That if the State of Texas shall require, as a precedent to such agreement, gaging devices and measurements in addition to or different from those considered by the Department of the Interior and the State of New Mexico to be necessary to this determination, the State of Texas shall pay one-half of all costs of constructing and operating such additional or different devices and making such additional or different measurements which are not borne by the United States. The results of the action required by this paragraph shall be incorporated in a written report transmitted to the States of Colorado, Texas, and New Mexico for comment in the manner provided in the Flood Control Act of 1944, before any appropriation shall be made for project construction."

LETTER FROM MIDDLE RIO GRANDE CONSERVANCY DISTRICT

MIDDLE RIO GRANDE CONSERVANCY DISTRICT,  
Albuquerque, N. Mex., July 23, 1958.

Hon. CLINTON P. ANDERSON,  
United States Senator,

Senate Office Building, Washington, D. C.

DEAR SENATOR ANDERSON: The Middle Rio Grande Conservancy District sat in with the engineers representing the State of New Mexico and members of the Interstate Streams Commission in a regular meeting held in Santa Fe, N. Mex., Monday, July 21, 1958.

The district is in full accord with the amendments submitted by Texas (as revised) in the above-mentioned meeting. It was felt that the Texas representatives who appeared at the hearing would also be in accord with the revisions that were suggested by the New Mexico people. They did not change the intent, but only cleared up the language so that there could be no future misunderstanding.

I am directed to submit this information on behalf of the board of directors of the district which is in accord with action taken by them in a regular meeting held July 22, 1958.

I trust that this fulfills your request to the representatives of the district who appeared at your recent hearing, wherein you asked that they submit their views in this matter before final action would be taken on the Senate bill authorizing the San Juan-Chama Navajo Indian irrigation project.

With best regards, I am  
Sincerely yours,

HUBERT BALL,  
Chief Engineer, Middle Rio Grande Conservancy District.