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Upper Colorado River Basin
Compact Commission.

Official record

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UPPER COLORADO RIVER BASIN COMPACT COMMISSION ,

OFFICIAL RECORD

VOLUME I

Record of Preliminary Governors' Meeting, and
for Commission Meetings No. 1-5, inclusive

FOREWORD

The Upper Colorado River Basin Compact Commission authorized this three volume compilation of its official Record of Proceedings. There is attached the certificate of the Chairman and Secretary of the Commission that the record is complete and correct.

The Upper Colorado River Basin Compact Commission was composed of commissioners representing the States of Arizona, Colorado, New Mexico, Utah, and Wyoming, and one commissioner appointed by the President of the United States to represent the Federal Government. After a preliminary meeting of the Governors of the States, the Commission commenced its negotiations at Salt Lake City, Utah, on July 31, 1946. As a result of its deliberations, the Compact, known as the Upper Colorado River Basin Compact, was signed at the Palace of Governors, Santa Fe, New Mexico, on October 11, 1948. Subsequently the Compact was ratified by the respective legislatures of the signatory States. The consent of the Congress of the United States, required by Article I, Section 10 of the Federal Constitution, was granted by Public Law 37, 81st Congress, First Session (63 Stat. 31), which was approved by the President of the United States on April 6, 1949. The Compact became effective and binding on the signatory States upon the latter date.

The Compact Commission did not adjourn sine die until August 5, 1949. It maintained its organization until that time to further the ratification of the Compact by the States and the approval of the Compact by the Congress and to perform certain other related duties and functions.

All of the States which negotiated and ratified the Upper Colorado River Basin Compact are signatories to the Colorado River Compact which was signed at Santa Fe, New Mexico, on November 24, 1922, and subsequently ratified by the seven States of the Colorado River Basin (Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming). The Congress of the United States gave its consent to the original Compact by the Boulder Canyon Project Act (45 Stat. 1057) in 1928. The provisions of the 1948 Upper Colorado River Basin Compact are subject to the provisions of the 1922 Compact.

The Colorado River Compact of 1922 did not apportion Colorado River water, or its use, among the signatory States. Instead, it divided the beneficial consumptive use of Colorado River water between the Upper and Lower Basins. The division point between the two basins was fixed as Lee Ferry, Arizona, which is located a short distance south of the Arizona-Utah boundary line. The Compact placed an obligation on the Upper Division States (Colorado, New Mexico, Utah, and Wyoming) to deliver specified quantities of water at Lee Ferry for the use of the Lower Basin. Provision was made for the satisfaction of any subsequently created treaty obligations to Mexico. The use of surplus water, over and above that apportioned to the two basins, was reserved for future apportionment.

The Upper Colorado River Basin Compact apportioned among the States of Arizona, Colorado, New Mexico, Utah, and Wyoming the beneficial consumptive use of the water apportioned to the Upper Basin by Article III (a) of the 1922 Compact (7,500,000 acre-feet annually). Provision was made as to the responsibility of the States of Colorado, New Mexico, Utah, and Wyoming in regard to their joint obligation to deliver water at Lee Ferry for use in the Lower Basin.

The 1948 Compact created an administrative agency known as the "Upper Colorado River Commission." This body, in addition to administering the Compact, is charged with the duty of expediting the development of the Upper Colorado River Basin. It is composed of five commissioners, one representing the United States of America, and one representing each of the States of Colorado, New Mexico, Utah, and Wyoming. Arizona is not represented on the Commission because of its relatively small area in the Upper Colorado River Basin. The Federal representative is chairman of the Commission. As an official body, it occupies the unique position of being able to expedite Upper Colorado River Basin development, to aid in shaping such development, and to integrate Federal and State activities and interests.

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Harry W. Bashore, for the United States of America, Chairman
Charles A. Carson, for Arizona
Clifford H. Stone, for Colorado
Fred E. Wilson, for New Mexico (1)
Edward H. Watson, for Utah (2)
L. C. Bishop, for Wyoming
Grover A. Giles, Secretary

- (1) Replaced Thomas M. McClure who died during the time the compact was under negotiation.
- (2) Was replaced by Harold A. Linke after the compact was signed but before the Commission adjourned sine die.

ENGINEERING ADVISORY COMMITTEE

J. R. Riter, for the United States of America, Chairman
H. P. Dugan, for the United States of America
R. Gail Baker, for Arizona
R. I. Meeker, for Arizona
Royce J. Tipton, for Colorado
R. M. Gildersleeve, for Colorado
Frank C. Merriell, for Colorado
John H. Bliss, for New Mexico
John R. Erickson, for New Mexico
C. O. Roskelley, for Utah
R. D. Goodrich, for Wyoming
H. T. Person, for Wyoming

Charles L. Patterson for Colorado, F. W. Cottrell for Utah and C. S. Jarvis for Utah served as members of the Committee during the early months of the negotiations.

LEGAL COMMITTEE

Charles A. Carson, for Arizona, Chairman
Jean S. Breitenstein, for Colorado
Fred E. Wilson, for New Mexico
W. J. Wehrli, for Wyoming
J. A. Howell, for Utah
J. G. Will, for the United States of America

EXPLANATORY NOTE

This compilation of the Record of the proceedings of the Upper Colorado River Basin Compact Commission is contained in three volumes, as follows:

Volume 1 - Containing the Record of the preliminary Governors' Meeting, and the Record of Meetings Nos. 1 to 5, inclusive, of the Commission.

Volume 2 - Containing the Record of Meetings Nos. 6 to 11, inclusive, of the Commission.

Volume 3 - Containing the Final Report of the Engineering Advisory Committee, and the Inflow-Outflow Manual.

These various meetings, in Volumes Nos. 1 and 2, are separated by blue insert-sheets, to indicate the division between meetings.

A Subject Index for meetings of the Commission appears at the beginning of Volumes Nos. 1 and 2. (See explanation for use, which prefaces the Subject Index). A separate Index for the Engineering Advisory Committee Report appears in Volume No. 3, as a part of that Report.

There appears in this compilation, at the beginning of each separate meeting of the Commission, a chronological Table of Contents, covering developments in each such meeting.

There were 11 official meetings of the Upper Colorado River Basin Compact Commission before it adjourned sine die at Salt Lake City, Utah, on August 5, 1949.

The schedule of all meetings pertaining to the Compact was as follows:

GOVERNORS' MEETING

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Meeting No. 1	Salt Lake City, Utah	July 31, 1946	Volume 1
Meeting No. 2	Santa Fe, New Mexico	Sept. 17-18, 1946	Volume 1
Meeting No. 3	Public Hearings	Oct. 28-30-31 and Nov. 2, 1946	Volume 1
Meeting No. 4	Cheyenne, Wyoming	Sept. 8, 1947	Volume 1
Meeting No. 5	Denver, Colorado	Dec. 1-2-3-4, 1947	Volume 1
Meeting No. 6	Denver, Colorado	Feb. 17-18-19-20- 21, 1948	Volume 2
Meeting No. 7	Vernal, Utah	July 7-21, 1948	Volume 2
Meeting No. 8	Santa Fe, New Mexico	Oct. 4-11, 1948	Volume 2

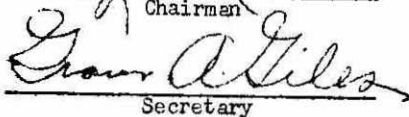
POST-COMPACT MEETINGS

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Meeting No. 10	Salt Lake City, Utah	Feb. 17-18, 1949	Volume 2
Meeting No. 11	Salt Lake City, Utah	August 5, 1949	Volume 2

C E R T I F I C A T E

Harry W. Bashore, Chairman, and Grover A. Giles, Secretary, of the Upper Colorado River Basin Compact Commission, do hereby certify that the record and proceedings of such Commission, from the 31st day of July, 1946 to the 5th day of August 1949, when the Commission adjourned sine die, contained in the three volume compilation to which this certificate is attached, are a complete and correct reproduction of such record and proceedings, including the Final Report of the Engineering Advisory Committee and the "Inflow-Outflow Manual" approved and adopted by the Commission.


Chairman


Secretary

SUBJECT INDEX

**** This Subject Index is prepared according to a code number system in this manner: 1:5:21; 2:6:34-40; 2:7:141-142. Interpreted, this code means: Volume 1, Meeting 5, Page 21; Volume 2, Meeting 6, Pages 34 to 40; and Volume 2, Meeting 7, Pages 141 and 142.

In brief, the code is:

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Second figure	=	Meeting Number
Other figures in series	=	Page Numbers

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Official Record of Governors' Meeting

Held At
Cheyenne, Wyoming

* * * * *

July 22, 1946

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(Preliminary Meeting)
Cheyenne, Wyoming
July 22, 1946

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GOVERNORS' CONFERENCE

IN RE

COLORADO RIVER COMPACT

held in

The House of Representatives

Capitol Building

Cheyenne, Wyoming

on Monday,

July 22, 1946.

PRESENT:

From the State of Arizona:

Mr. Charles A. Carson, Official Representative of the Honorable Sidney P. Osborn, Governor.

From the State of Colorado:

The Honorable John C. Vivian, Governor.

Mr. Clifford H. Stone, Director, Colorado Water Conservation Board.

Mr. Jean S. Breitenstein.

Mr. M. C. Hinderlider, State Engineer.

From the State of New Mexico:

The Honorable John J. Dempsey, Governor.

From the State of Utah:

The Honorable Herbert B. Maw, Governor.

Mr. Grover A. Giles, Attorney General.

Mr. William R. Wallace, President of the Utah Water Users Ass'n. and Member of the Committees of 14 and 16.

Mr. Ed H. Watson, State Engineer.

From the State of Wyoming:

The Honorable Lester C. Hunt, Governor.

Mr. L. C. Bishop, State Engineer and Inter-State Streams Commissioner.

Mr. E. B. Hitchcock, Member Planning and Water Conservation Board.

Mr. H. Melvin Rollins, Member of Committees 14 and 16.

Mr. Leland U. Grieve, Asst. Inter-State Streams Comm.

Mr. Richard J. Lumen, Asst. Inter-State Streams Comm.

Mr. Norman W. Barlow, Asst. Inter-State Streams Comm.

Mr. Platt Wilson, Asst. Inter-State Streams Comm.

Mr. Emil C. Gradert, Asst. Inter-State Streams Comm.

Mr. David P. Miller, Asst. Inter-State Streams Comm.

Mr. Joe Michell, Asst. Inter-State Streams Comm.

Mr. Joe Budd, Asst. Inter-State Streams Comm.

Mr. D. H. Christensen, Asst. Inter-State Streams Comm.

Mr. John Reed, Asst. Inter-State Streams Commissioner.

Mr. Louis J. O'Marr, Attorney General.

For the United States Government:

Mr. Harry W. Bashore, Former Commissioner, U. S. Bureau of Reclamation.

Mr. William E. Warne, Assistant Commissioner, U. S. Bureau of Reclamation.

And other persons appearing in behalf of various organizations, and individuals personally interested herein.

AND THEREUPON, the following proceedings were had, to-wit:

GOVERNOR LESTER C. HUNT, CHAIRMAN PRO TEM

GOVERNOR HUNT: Gentlemen: I think you all know, of course, why we are assembled here this morning. It is a matter of tremendous importance to the Upper Basin Colorado River States, a matter that now has become almost a necessity that it be done and be done with some rapidity, if we expect the development of the Colorado River Basin in the Upper Basin States to get under way.

Before starting a temporary organization, I have the pleasure of introducing my fellow Governors here and the gentleman representing Governor Osborn. I would first like to introduce Governor Dempsey of New Mexico. (Applause) And Governor Maw of Utah. (Applause) And Governor Vivian of Colorado. (Applause) And Mr. Carson, representing Governor Osborn of Arizona. (Applause)

And our friend of long standing, Harry Bashore, who has been designated by the Federal Government to appear here.

Now, gentlemen, the hour is almost approaching twelve, and to the end that we might possibly complete a permanent organization before adjourning for lunch, without any further ado I am going to ask for nominations for a temporary chairman of this organization. Do I hear a nomination?

GOVERNOR VIVIAN: Mr. Chairman, I would like to move the appointment of Mr. Harry W. Bashore as temporary chairman.

GOVERNOR DEMPSEY: Second the motion.

GOVERNOR HUNT: The name of Mr. Bashore has been presented as temporary chairman of this organization. It has been duly seconded. Are there other nominations? If not, do I hear a motion that the nominations be closed?

GOVERNOR VIVIAN: I move the nominations be closed and the chairman directed to cast a unanimous ballot for Mr. Harry Bashore as temporary chairman.

GOVERNOR HUNT: You have heard the motion by Governor Vivian that nominations be closed and the Chair be directed to cast a unanimous ballot for Mr. Harry Bashore as temporary chairman. Are you ready for the question? Those in favor say "Aye."

(The motion, being put to a vote, was duly carried.)

GOVERNOR HUNT: It is a very great pleasure to ask you, Harry, to continue to preside over this organization, if you will, please.

CHAIRMAN BASHORE: Thank you, Governor Hunt. Ladies and gentlemen, I didn't anticipate being pitched into this so abruptly, but I will try to function.

Now, I haven't had much time to think about this. I don't know that we have any program before us, so the meeting is yours. I will make a few suggestions. In the first place, I might state that a Federal representative on this Commission is, according to my understanding, at the request of the Governors of the states. The water belongs to the states, as I understand it, and it is the problem of the states to divide the water equitably. I will have no vote and will not be particularly beneficial, perhaps, except in making observations from time to time and giving whatever assistance I can give.

You folks probably all know that I retired from the position of Commissioner of Reclamation some time ago with the idea of getting out of work, but when this proposition was put up to me, serving as Federal representative of this Colorado River Commission, I couldn't turn it down, because I had been

very much interested in it. I consider it a very important question and it is going to require all of the intelligence and ability that we all have, individually and collectively, to solve it so that things may be accomplished on the Colorado. There is no use in pulling and hauling between yourselves on this Basin. We have got to come out of this with an answer. We cannot expect Congress to answer it, and I am hopeful we will come out with an answer so that we may have an authorization for the development of the Colorado something like we have on the Missouri, where everybody got behind the proposition, and complete authorization was given, with the naming of initial projects in the program. That would be my hope.

Now, I believe that we should proceed, then, to the organization of the Commission, and preliminary to doing that I will submit my own credentials as Federal representative, for the records of the Commission--a letter from President Truman appointing me Federal representative, and my reply. These letters are presented for the record.

(The letters referred to are as follows:)

"THE WHITE HOUSE
WASHINGTON

July 17, 1946

My dear Mr. Bashore:

Pursuant to the Boulder Canyon Project Act (Act of December 21, 1928, Chapter 42, 45 Stat. 1057), granting the consent of the Congress to the States of the Colorado River Basin to negotiate and enter into compacts or agreements supplemental to and in conformity with the Colorado River Compact and consistent with the Boulder Canyon Project Act, you are hereby appointed as the representative of the United States to participate in the coming negotiations of the States of the Upper Colorado River Basin and to make a report to the Congress of the proceedings and of any compact or agreement entered into.

Very sincerely yours,
(Signed) Harry S. Truman

Mr. Harry W. Bashore,
Mitchell,
Nebraska."

"UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

Mitchell, Nebraska
July 19, 1946

My dear Mr. President:

I have received your letter of July 17 in which you state that I have been appointed as the representative of the United States to participate in the coming negotiations of the States of the Upper Colorado River Basin and to make a report to the Congress of the proceedings and of any compact or agreement entered into.

I accept your appointment with pleasure because it offers an opportunity to render constructive service to the United States and to the States of the Upper Colorado River Basin in solving the complex problem of water apportionment which is necessary for the conservation and development of a most valuable national asset.

Very sincerely yours,
(Signed) Harry W. Bashore.

President Harry S. Truman,
The White House.

cc: Commissioner,
Bureau of Reclamation
Washington, D. C. (In Dupl.)

cc: Colorado River Basin Board."

CHAIRMAN BASHORE: Is the Commissioner from the State of Colorado present?

MR. STONE: Mr. Chairman, I am the Commissioner appointed by the Governor, and the appointment has been approved by the State Water Board, in accordance with the law. May I make a motion, Mr. Chairman, for the record, so as to keep the record straight? It seems to me it would be advisable that I make a motion that the states of the Upper Colorado River Basin agree to enter into compact negotiations for the purpose of allocating the waters of the Upper Basin, allocated in accordance with the Colorado River compact, and for the purpose of determining the obligations under the compact for deliveries of water.

I make that as a motion to indicate at the beginning that these interested states have agreed to initiate compact negotiations.

MR. BISHOP: Mr. Chairman, I second the motion.

CHAIRMAN BASHORE: You have heard the motion and it has been seconded. All in favor of the motion signify by saying "Aye."

(The motion, being put to a vote, was carried.)

CHAIRMAN BASHORE: Now, Judge, is it satisfactory to present your credentials as a representative of the State of Colorado, as Commissioner? Do you have those credentials?

JUDGE STONE: I believe I have my letter of appointment here.

CHAIRMAN BASHORE: I may appear a little technical on that, but in the organization of this Commission I think it is quite important.

JUDGE STONE: I will present those credentials. I believe I have them with me. In all events, they will be presented when the Commission meets. The fact of the matter is the approval of my appointment was made just yesterday, so the State Water Board in that resolution is not available here, but the Governor's letter is here.

CHAIRMAN BASHORE: I believe those should be made a part of the record, and also your acceptance of the position as Commissioner.

JUDGE STONE: I will submit that for the record.

"Appointment of Clifford H. Stone as Compact Commissioner to represent the State of Colorado in compact negotiations respecting the waters of the Colorado River and its tributaries above Lee Ferry, Arizona.

Section 9 of Chapter 265 of the Session Laws of Colorado for the year 1937 provides as follows:

'Section 9. The Governor from time to time, with the approval of the Board, shall appoint a commissioner, or commissioners, who shall represent the State of Colorado upon joint commissions to be composed of commissioners representing the states of Colorado and another state or other states for the purpose of negotiating and entering into compacts or agreements

between said states, with the consent of the Congress when necessary, ascertaining and declaring the authority, interest or right of the several signatory states, or any of them, over, in and to interstate waters, all to the end that such waters may be used and disposed of by the several states and their respective citizens in accordance with an equitable apportionment or division thereof made between the signatory states by the terms of the compact or agreement; provided, however, that any compact or agreement so entered into on behalf of said states shall not be binding or obligatory upon any of said states or the citizens thereof unless and until, the same shall have been ratified and approved by the legislatures of all of said signatory states, and by the Congress of the United States when necessary. The Board shall furnish such commissioner or commissioners with such legal, engineering, clerical, and other assistants as the Board may deem advisable and necessary, all legal assistants to be employed with the consent of the Attorney General. Such commissioner or commissioners shall serve at the pleasure of the Governor at a compensation to be fixed by him. The compensation of the legal, engineering and other assistants of said commissioner or commissioners shall be fixed by the Board and all such compensation and necessary traveling expenses of such commissioner or commissioners and his or their said assistants shall be paid out of the funds appropriated for carrying out the purposes of this Act.

"At a meeting of the Colorado Water Conservation Board, held on the 21st day of July, A. D. 1946, the following proceedings took place, to-wit:

'There is presented to the Board a letter from Governor John C. Vivian, dated July 2, 1946, submitting the appointment of a Commissioner to negotiate a compact respecting the waters of the Colorado River and its tributaries above Lee Ferry, Arizona, which letter reads as follows:

"THE STATE OF COLORADO
Executive Chamber
Denver

The Governor

July 2, 1946

Colorado Water Conservation Board
212 State Office Building
Denver 2, Colorado

Gentlemen:

This is to advise you that I have today appointed Clifford H. Stone, Director of the Colorado Water Conservation Board, to represent the State of Colorado upon a joint commission composed of commissioners representing the States of the Upper Basin of the Colorado River for the purpose of making and entering into a compact respecting the waters of the Colorado River and its tributaries above Lee Ferry, Arizona.

It is understood that any compact negotiated by these Commissioners shall not be binding nor obligatory upon the State of Colorado until it shall have been ratified by the respective legislatures of such Upper Basin States and assented to by the Congress of the United States.

This appointment is made pursuant to Section 9 of Chapter 265 of the Session Laws of Colorado of 1937. In accordance therewith you are hereby requested to approve the appointment of Clifford H. Stone herein made and advise me of such approval.

I am making this appointment now because recent developments indicate the desirability of prompt action by the States of the Upper Basin of the Colorado River in allocating among themselves the waters of that river above Lee

Ferry, Arizona, and of determining their several obligations with respect to the maintenance of the flow of that river at Lee Ferry as required by the Colorado River Compact which became effective on the proclamation of the President, June 25, 1929. A careful study of the present situation has convinced me that expeditious action is necessary to protect Colorado's interest in the Colorado River.

Faithfully yours,
(s) John C. Vivian."

'It was moved by Silmon Smith and seconded by George Pughe that, acting under the provisions of Chapter 265, Session Laws of Colorado, 1937, the Board approve the appointment of Clifford H. Stone as Commissioner to represent the State of Colorado in compact negotiations respecting the waters of the Colorado River and its tributaries above Lee Ferry, Arizona.

After discussion the motion was unanimously passed and declared adopted.

J. M. Dille, Acting Chairman.'

Attest:
Clifford H. Stone,
Director and Secretary.'

'I, Clifford H. Stone, do hereby accept the appointment as Compact Commissioner to negotiate, on behalf of the State of Colorado, a compact respecting the waters of the Colorado River and its tributaries above Lee Ferry, Arizona.

Dated at Denver, Colorado this 21st day of July, A. D. 1946.

(Signed) Clifford H. Stone."

CHAIRMAN BASHORE: Is the Commissioner from the State of Wyoming present?

MR. BISHOP: Yes, sir, L. C. Bishop.

CHAIRMAN BASHORE: Are you prepared to submit your credentials?

MR. BISHOP: Inter-State Streams Commissioner.

CHAIRMAN BASHORE: Can you present your credentials for the record, Clark?

MR. BISHOP: Yes, sir.

"Secretary of State,
Cheyenne, Wyoming

This card will identify L. C. Bishop, who holds the official position of State Engineer for the State of Wyoming.

(Signed) Lester C. Hunt,
Secretary of State.

Signature of card holder: L. C. Bishop."

CHAIRMAN BASHORE: The Commissioner from the State of New Mexico.

GOVERNOR DEMPSEY: He is not present, Harry. I think he is in Utah today, but his credentials will be here before your next meeting and you can put them in the record, if you desire, on that basis.

CHAIRMAN BASHORE: All right, Governor Dempsey of New Mexico has assured us that the credentials of the Commissioner from New Mexico will be available before the next meeting.

The Commissioner from the State of Utah. Is he present?

MR. WATSON: Ed H. Watson is my name. I represent the State by statute, and I understand that the Governor will act under that statute and make the proper appointment and give you the proper credentials.

GOVERNOR MAW: Yes, I shall supply those credentials.

CHAIRMAN BASHORE: Very well. The Commissioner from the State of Arizona. I believe his credentials should be presented also, and I presume that they will be available for the next meeting?

MR. CARSON: Yes. Mr. Chairman, I am here as the representative of Governor Osborn. I think he sent Governor Hunt a wire, but I have not been formally designated by him as a commissioner in this matter, but that will be available before the next meeting.

CHAIRMAN BASHORE: I believe that that completes the call for credentials from the Commissioners, and I believe it is now in order for a motion for the appointment of a permanent chairman of the Commission of the Upper Colorado River Basin.

MR. BISHOP: Mr. Chairman, I make a motion that Mr. Harry Bashore, Federal representative, be elected permanent chairman of this organization. 8

JUDGE STONE: Second the motion.

CHAIRMAN BASHORE: I am not very well versed in parliamentary procedure, but I believe it is proper in a case like this for somebody else to take the Chair while a vote is being called for. Governor Hunt, will you take the Chair?

GOVERNOR HUNT: I will just use this one and you can retain that one.

A motion has been made by Mr. Bishop of Wyoming that the Federal representative, Mr. Harry Bashore, be made the permanent chairman of this organization. Do I hear a second to the motion?

MR. WATSON: I second the motion. May I inquire, does Mr. Bishop mean by that the Chairman of the Compact Commission? Is that the intent of the motion? He said "this organization."

GOVERNOR HUNT: I think that is the intent of your motion, wasn't it, Mr. Bishop?

MR. BISHOP: Yes.

GOVERNOR HUNT: Are there any further nominations? There being none, do I hear a motion that the nominations be closed?

MR. WATSON: I move the nominations be closed and the Chairman be instructed to cast a unanimous vote for Mr. Bashore.

MR. BISHOP: Seconded. 8

GOVERNOR HUNT: You have heard the motion and you have heard the second. There is no need for me to repeat it. All those in favor of the motion say "Aye."

(The motion, being put to a vote, was carried.)

whole lot here this morning.

That, then, provides for a permanent chairman of the Commission. Now what are your wishes as to further action? I don't have anything particular in mind myself. I don't want to put myself in a position of directing your thoughts or actions in this matter.

JUDGE STONE: Mr. Chairman, may I raise a question? I take it that this amounts to an organization of the Commission. The Commission itself is assigned the task of negotiating the compact, and in the case of two states the Commissioners representing those states are not present. As a matter of fact, we are not in a position to proceed with compact negotiations until all the accredited Commissioners are present to sit as a Commission.

CHAIRMAN BASHORE: Yes, I think that is correct, Judge Stone, but I thought there might be other matters that the meeting would desire to take up.

JUDGE STONE: Mr. Chairman, I don't want to do all the talking--

CHAIRMAN BASHORE: Neither do I, Judge. You may have the floor.

JUDGE STONE: --but there was a question raised, and I thought maybe Governor Hunt would present it. It was raised in his office, and it seems to me it might be well to discuss it here in this larger group, Governor, namely, the question of the nature of the participation of the State of Arizona. Mr. Carson was present in the Governor's office when that question came up, and it was discussed briefly. It seems--if I misinterpret the matter, I might be corrected--but it seems it was the opinion that it was advisable that Arizona participate in these negotiations, but that it might be well to define the nature and the extent of Arizona's participation.

That grows out of the fact that Arizona is interested in the apportionment of the water of the Upper Basin, because a considerable territory of that state is within the Upper Basin, and Arizona provides a small amount of the water furnished by the Upper Basin. It is something like seven-tenths of one per cent, or on that order.

However, the Colorado River Compact, which allocates water to the Upper Basin, places the obligation to make deliveries to Lee Ferry on the States of the upper division, and those are the States of Wyoming, New Mexico, Utah, and Colorado.

It seems that Arizona's participation would not extend to the matter of agreeing upon the obligations at Lee Ferry, but Arizona definitely is interested in the apportionment of some of the waters to the extent of her interest.

There is another question, the position of Arizona should be clearly defined with respect to her relation to the Lower Basin, and I raise this as a matter which might well be discussed here, Mr. Chairman.

CHAIRMAN BASHORE: Are there any further remarks on that question?

MR. CARSON: Mr. Chairman, I think Judge Stone has pretty well stated Arizona's interest here. There is an area of 6,000 to 8,000 square miles of Arizona that is in the Upper Basin, as defined by the Colorado River Compact, upon which some water is now being utilized, and there are some plans for additional utilization. So we are very much concerned in the division of the water supply of the Upper Basin, in order to see that that portion of Arizona is taken into account.

We are, of course, somewhat in the anomalous position of being a Lower Basin state also, in which our greatest interest lies, but in this participation it seems to me that Arizona should participate in order to see that her uses of water in that small area are taken into account in the division of waters, and I think it is true, as Judge Stone says, that the obligation to the Lower Basin to deliver water at Lee Ferry is placed upon the four states of the upper division and not upon that section of Arizona that is within the Upper Basin.

So in any compact that might be worked out, we would, of course, desire to very clearly define Arizona's interest in this and not participate in any discussions that relate to the obligations of the upper states to deliver water at Lee Ferry, or the division of that obligation as among themselves.

CHAIRMAN BASHORE: Thank you. The Chair suggests that you prepare, Mr. Carson, a statement defining Arizona's limitation in the deliberations of the Commission for presentation at the next meeting of the Commission of the Upper Colorado. Would that be satisfactory?

MR. CARSON: Yes.

CHAIRMAN BASHORE: Now I am like Judge Stone, I don't want to do all the talking, but I don't know just what we have before us. It seems to me, however, that it is in order now to decide when and where the next meeting of the Commission is to be held.

MR. BISHOP: Mr. Chairman, there is a lot more to do and the lunch hour is past more than a half an hour. I make the motion that we adjourn until two o'clock and come back here and continue our conversation.

I would like to make another further suggestion. I believe when we meet at two o'clock to proceed with the organization, that perhaps we should elect a secretary.

CHAIRMAN BASHORE: Yes. Do I hear a second?

GOVERNOR HUNT: I second Mr. Bishop's motion.

(The motion, being put to a vote, was carried.)

(Whereupon this conference was adjourned until two o'clock, p.m., of the same day.)

CHAIRMAN BASHORE: Gentlemen, will the meeting come to order? I know there are folks here from considerable distances that haven't had much to say this morning. This meeting is open for discussion, so any comments you wish to make, with the guidance of the Commissioners, would be welcome. The Chair would like to have suggestions from the floor, suggestions which might be taken up very briefly, because we haven't too much time left today. The meeting is in your hands.

Gentlemen, there is a man here from Washington who used to help me out a little bit when I was back there, and I would like to have him come up here and be introduced and maybe say something, if he wants to, providing he doesn't talk too long. He is pretty long-winded, but I will limit him to five minutes. Assistant Commissioner Warne. Bill, come up here and say your piece.

MR. WARNE: Mr. Chairman, I didn't come here really to participate in your meeting. I came here to see your Chairman and to renew acquaintances with you. I happened to be in the vicinity today and wanted to wish you well

and Godspeed in the work of the Commission to allocate the waters of the Upper Basin of the Colorado River. I know this group needs no assurance from the Bureau of Reclamation that we are heart and soul with you in your work, and we are anxious to see the way cleared for a great program to go forward on the Colorado River in the next ten years, and it is only by the success of meetings such as this that will influence the division of the waters and make possible through agreement the selection and prosecution of important development projects in these states, and that is the only way we can have any progress on the river in the years to come.

Now, the Colorado River Compact of 1922 and the Boulder Canyon Project Act cleared the way for the first stage of development of the river as we know it today. I anticipate that the Basin report which you have in your hands, the assignment which you are giving yourselves here as a commission, and the success of your work will be the great monument, the turning point in the dedication and prosecution of the second stage of development of the Colorado River, which will, in my belief, bring construction by the Federal Government and other related projects that will exceed in value those that went into the first stage of the river's development.

I hastily calculated that over a billion dollars had been spent on the Colorado River on water projects directly related to the Colorado River development as a result of the 1922 compact and the Boulder Canyon Project Act. I have an idea that figure will be equalled and perhaps exceed even many times that figure in the second stage of development if we can find a mutuality of agreement for the prosecution of these works in accord among ourselves and with complete cooperation.

That is the thought I would like to leave with you here, that agreement on a sound and satisfactory basis will provide the basis upon which we can and will build the second stage of development of the Colorado River, largely in these four Upper Basin States, because the Lower Basin was the principal scene of the first stage of development performance. The Upper Basin will be, in the main, the theatre for the second stage.

Now, I wish you well and Godspeed, and I hope for success of your meetings and that they may be all in perfect harmony and that we may go forward and get this great job done. I thank you very much. (Applause)

CHAIRMAN BASHORE: Thank you, Bill. Your remarks are very pertinent and timely. What is the next order of business, gentlemen?

MR. WATSON: Mr. Chairman, the appointment of the Secretary is considered to be the first order of business this afternoon. Is that in order to be done?

CHAIRMAN BASHORE: I think the appointment of a temporary secretary the request for an appointment of a temporary secretary, would be in order. I doubt if appointment of a permanent secretary can properly be made. At least, it would be just as well to appoint a temporary secretary at the next meeting of the Commissioners, and then the Commissioners present at that time and a permanent secretary can be appointed. It would be in order to consider the appointment of a secretary at this time.

MR. WATSON: Mr. Chairman, are nominations in order?

CHAIRMAN BASHORE: Yes, sir.

MR. WATSON: I nominate Attorney General Giles as acting temporary secretary. Mr. Giles has acted in that capacity before and he is rather

accessible, and the records of this group, or most of the records, are in Salt Lake City and easily accessible.

I therefore nominate Mr. Giles.

MR. BISHOP: I will second the motion.

CHAIRMAN BASHORE: Do we vote on that nomination, or shall we consider other nominations?

GOVERNOR VIVIAN: Mr. Chairman, I believe this deliberation from now on should be through the Commission members. As I understand it, they are sitting now as a legally constituted Commission. I don't know who made that second, but I think it should be made by some member of the Commission.

CHAIRMAN BASHORE: The second was made by Mr. Bishop, who is a member of the Commission.

JUDGE STONE: I understand that this secretary merely serves as the temporary secretary for this overall meeting, and has nothing to do with the permanent organization of the Commission.

CHAIRMAN BASHORE: I think this temporary secretary would serve at the next meeting until another permanent secretary is appointed by the Commissioners at their next meeting. All the Commissioners are not here today. I will stand corrected on that if the Commissioners are here and the Governor thinks a permanent secretary can be appointed today. I certainly would offer no objection, but in the absence of the Commissioners, one or two of them--

JUDGE STONE: It seems to me you are entirely right.

CHAIRMAN BASHORE: Shall we vote on the nomination? All in favor of the nomination of Mr. Giles respond by saying "Aye."

(The motion, being put to a vote, was carried.)

CHAIRMAN BASHORE: Are all the Commissioners present in favor of him? Mr. Bishop, Judge Stone, you voted "Aye" on that question?

JUDGE STONE: Yes, sir, I voted "Aye."

MR. BISHOP: Yes, sir.

JUDGE STONE: Mr. Chairman, it has been suggested, it seems to me, wisely so, that it might be well at this time for us to adopt an official name for this Commission, and I believe it would be well to consider that. It ought not be a difficult matter to determine, and a suggestion of that kind has been made to me.

CHAIRMAN BASHORE: I think that is a very good idea, Judge. Do you have something to suggest?

JUDGE STONE: You can put the matter before the group. I move that the Commission which has been constituted, set up, at this meeting, be known as the Upper Colorado River Compact Commission.

MR. BISHOP: Mr. Chairman, I agree with that and I will second it, if you will put "Basin" in there, "the Upper Colorado River Basin Compact Commission."

JUDGE STONE: Very well. That is agreeable.

CHAIRMAN BASHORE: What are other suggestions, if any?

MR. BISHOP: I will second the motion of that.

CHAIRMAN BASHORE: The motion has been seconded. Any discussion? The motion is that the name of the Commission shall be the Upper Colorado River Basin Compact Commission. Is that correct, Judge?

JUDGE STONE: Yes, sir.

CHAIRMAN BASHORE: Those in favor respond by saying "Aye."

(The motion, being put to a vote, was carried.)

CHAIRMAN BASHORE: Apparently that is the name of the Commission.

GOVERNOR VIVIAN: Mr. Chairman.

CHAIRMAN BASHORE: Governor Vivian.

GOVERNOR VIVIAN: Unless there is someone else here who has something to say, I now move you that the Commission go in session and determine what it has to determine, and the rest of us withdraw.

GOVERNOR MAW: Second the motion.

CHAIRMAN BASHORE: You have heard the motion and the second. The motion is that the Commission now go into session, and those present not being members of the Commission, withdraw.

GOVERNOR HUNT: Mr. Chairman, I should like to discuss John's motion momentarily. We have with us today here men from over in the Colorado River Basin of Wyoming that have come long distances, that have taken of their time, and I should like to amend your motion, John, that all withdraw excepting the members of the Commission and whoever may be designated by members of the Commission to remain, and that will give our Inter-State Streams Commissioner, who is a member of the Commission, the opportunity to invite his assistants to sit in.

GOVERNOR VIVIAN: I will accept that amendment.

CHAIRMAN BASHORE: You have heard the motion and the amendment.

MR. BISHOP: Mr. Chairman, at this point I would like to say that I expect my assistant Commissioners to sit in on the meetings at any time that we can get them to be present. We figure on that and they are invited.

CHAIRMAN BASHORE: Any further discussion? Those in favor of the motion say "Aye."

(The motion, being put to a vote, was carried.)

GOVERNOR HUNT: I would like to see the Governors in my office for a couple minutes before they leave, if I may.

(Whereupon, the open conference was adjourned.)

COMMISSIONERS' MEETING

CHAIRMAN BASHORE: Gentlemen, this now is the first meeting of the Upper Colorado River Basin Compact Commission. There are three Commissioners here, I believe--Utah, Wyoming, and Colorado represented. It seems to me that about all we can do is to decide on the time and place of the next meeting, because we lack two representatives here. I would like you to correct me if I am wrong on that.

JUDGE STONE: Mr. Chairman, I agree with you fully. It seems to me that this Commission is not in a position to proceed with any business, except to agree upon the date of the next meeting, in the absence of accredited compact Commissioners from some of the participating states.

MR. BISHOP: Mr. Chairman, do you think it would be wrong for this meeting to, you might say, issue a directive to the Commissioners of all the states to be prepared at the next meeting to submit a statement of the reasonable needs of their states, within the bounds of their ability to pay, down at Lee Ferry? If they will all do that, I think we have something to start off with. It won't be much trouble to get together, because some of us don't want to go too high in what we ask for, because we don't want to sign up for more than we can pay for. I wonder if that wouldn't be an advisable thing to do, and then if we are going to have the list of these projects, why not have each state prepare that list, and if we cannot get together, maybe we would want to do something about that.

My thought at the present time is that I don't think we should consider anything accomplished in dividing water, but our Wyoming delegates are going to be open-minded on it and do the right thing about it. That's just something for you to think about.

MR. WATSON: Mr. Chairman, since you mentioned the subject as to the place of meeting, and it was supported by Judge Stone, I would like to talk on that point, and then after that has been decided upon, continue with the subject Mr. Bishop brought up. We would cheerfully invite you to meet at Salt Lake City the next time, in a very short time, and this committee to arrange upon that time. I would invite you to Salt Lake City for the next place of meeting. If necessary, I will make a motion to that effect, if that is in order.

CHAIRMAN BASHORE: Do I hear a second to that motion?

JUDGE STONE: Someone made a very wise comment at our meeting in one discussion this week, that it might be well to start off these negotiations in some town that is actually within the Colorado River Basin. We necessarily will meet from place to place, but we are dealing with the Colorado River, and why wouldn't it be a good start-off, at least, to meet within the Basin, at some such place as Grand Junction or Glenwood Springs?

MR. BISHOP: Rock Springs, Wyoming, would be all right. We can take care of them all right over there. How does that suit you? What I had in mind, we might be able to get together at this meeting in Salt Lake. We are going to be down there for three or four days, and if the Chairman is going to be there--were you figuring on being there, Harry?

CHAIRMAN BASHORE: Well, I can be there, yes.

MR. BISHOP: We will all be there. We will have Commissioners from all the states there. We are all interested, and I just wonder if it wouldn't be feasible for us to get together and have a meeting there and maybe go a little farther with it. Every little bit helps, you know.

CHAIRMAN BASHORE: Well, Clark, in that connection the same thought occurred to me, but, on the other hand, if the Commission decides to ask the representatives at the next meeting to have this list of projects or apportionment of water available, it is rather short notice to them. They are not here at the meeting and they would be hard pressed to meet that request, it would seem to me.

MR. BISHOP: Mr. Chairman, I don't think we could make any final decision on anything until we had the full committee there and we have given them due notice, and all that sort of thing, but I am sure Wyoming will have several there, and I am sure the other states will, and we might at least consider some of these points we have to consider to bring about the compact.

MR. WATSON: Mr. Chairman, it is only a week or ten days until that time, consequently we don't need a program for that. Now, we can establish our program at that time, if we determine upon the time and place of the meeting now.

JUDGE STONE: Mr. Chairman, it seems to me, although we want to proceed as fast as possible, we have got to remember that there are two of the Commissioners that have not yet been officially accredited. We have only got the rest of this week for that to be accomplished. It has been my observation when you mix up a meeting of the Compact Commission, or take up a matter of that importance in connection with another meeting, you don't get very far. Our next meeting ought to be held separately and a sufficiently long time from now to be sure that these other Commissioners are duly certified as being authorized to represent those other states, and that at that time we should discuss the program and the procedure of the Commission and officially organize the Commission. After all, the Commission is not yet officially organized and cannot be officially organized until all the Commissioners are present. We have no right to do it in the absence of two of the states, through their accredited representatives. For that reason, I think that we ought to put the time of meeting far enough in advance to be sure we are ready the next time to proceed.

CHAIRMAN BASHORE: Well, what shall we do about it? In the first place, what is the location? The place and the time are two things that must be decided on.

MR. BARLOW: In the absence of Mr. Bishop--he has just gone to his office for a minute, and if you could wait a minute or two I think he would like to invite you to Rock Springs. He is just going to try to pick a convenient date on his agenda which will possibly meet the approval here, if you would just wait a minute.

CHAIRMAN BASHORE: Mr. Bishop, do you have a suggestion as to the time and place of the next meeting?

MR. BISHOP: Mr. Chairman, I just looked up my markings on my calendar, and I could get away on the 8th, 9th and 10th, or the 19th, 20th, and 21st, for three days--of August.

MR. ROLLINS: I might suggest that unless you come to Wyoming, it would be pretty hot to hold it in any of these other states.

CHAIRMAN BASHORE: Yes, we realize that.

JUDGE STONE: Glenwood Springs would be all right too.

MR. WATSON: Mr. Chairman, it appears to me that we have an elegant

opportunity to save travel and save time, to have an initial meeting, say, August 1st in Salt Lake, right after the meeting of the Committee of 16, to perfect our agenda. The qualifications of the members can be established in the meantime, and it looks as though we are just taking time by the forelock in doing something there, because the opportunity exists to do it, and at that time we can determine on this other meeting, wherever it may be held, with an agenda prepared for it.

CHAIRMAN BASHORE: Of course, the Chair is absolutely neutral on that. I am a man of leisure and I can meet any date you decide on.

JUDGE STONE: As I understand it, Mr. Watson, your thought there was that we wouldn't meet to necessarily conduct any business, but merely to organize and fix a date for the second meeting?

MR. WATSON: And establish an agenda, if necessary, if we could. In other words, we would accomplish something by all being together, at least, at that time, at practically no extra effort or expense.

MR. BISHOP: You have that meeting on what day, Ed?

MR. WATSON: It could be immediately after our meeting or immediately before the meeting of the Committee of 16.

MR. BISHOP: Don't you think, with the three-day meeting we will have there, Judge, we will probably get through early on the third day, and that we could probably meet in the afternoon of the third day and do that work?

JUDGE STONE: Such a meeting wouldn't be a long meeting, if it is the purpose merely to perfect an organization. It would only require a short time. I think that would be possible.

MR. BISHOP: Mr. Chairman, I make a motion that we leave it to the Chairman to decide on the time, if he will be there, and we will try to have the meeting on the afternoon of the 31st, and if it is impossible, have it on the next day. Our people will be there, and I don't think it will inconvenience them very much if we have to stay over a day.

MR. WATSON: I second the motion.

CHAIRMAN BASHORE: Just a moment. Leaving it to the Chairman--the Chairman will meet any day you select.

JUDGE STONE: I will make a definite motion to the effect that the Commission hold its organization meeting on the first day of August at Salt Lake City, Utah.

MR. WATSON: Second the motion.

JUDGE STONE: I would like, however, to state that part of my motion, "organization meeting," means something, that we merely organize and, if possible, set up an agenda, but get organized and get started.

MR. BISHOP: I will second that.

CHAIRMAN BASHORE: The motion has been made and seconded that the organization, the Upper Colorado River Basin Compact Commission, hold a meeting at Salt Lake City on August 1st at--what time, ten a.m.?

JUDGE STONE: That is all right.

CHAIRMAN BASHORE: --ten o'clock a.m., or earlier, if you like.

JUDGE STONE: We will have to leave the place of meeting up to Mr. Giles, I presume, or someone from Utah, or Mr. Watson.

CHAIRMAN BASHORE: The time, though. We have got the day all right, but what is the hour?

JUDGE STONE: Ten o'clock a.m.

MR. WATSON: At Mr. Giles' office.

MR. ROLLINS: Hotel Utah, Ed.

MR. WATSON: Mr. Giles' office.

JUDGE STONE: Before you put that motion, could we have an understanding that in the event the meeting of the Committee of 16 does not take up three days, and since this meeting will be a short one and we will all be there, we might agree to meet a little earlier just to save time. That is assuming we get through on the 30th or the 31st with the Committee of 16, then we might just as well get together and get this job done and not hold everybody over. I think we ought to adopt it with that understanding.

Now I will restate my motion: That the Upper Colorado River Basin Compact Commission meet at Salt Lake City following the adjournment of the Committee of 16, but not later than August 1st, and that that meeting be held for the purpose of organizing the Commission.

MR. BISHOP: I will second the motion.

CHAIRMAN BASHORE: The motion has been made and seconded. Those in favor say "Aye."

(The motion, being put to a vote, was carried.)

CHAIRMAN BASHORE: Now, is the temporary Secretary here?

MR. GILES: I was elected.

CHAIRMAN BASHORE: Yes. Then you are going to have the job of notifying everyone.

MR. GILES: That is correct.

CHAIRMAN BASHORE: Gentlemen, do we have any further business?

JUDGE STONE: I take it, Mr. Chairman, that in accordance with the usual practice and procedure in compact meetings, each Commissioner will be entitled to have at that meeting such consultants or advisers as he may see fit, is that correct?

CHAIRMAN BASHORE: Yes, I think that is pretty well understood. That is the usual procedure, to have all the advisers that you wish, but, of course, they are not entitled to a vote when it comes to a voting proposition.

MR. BISHOP: Mr. Chairman, at this time wouldn't it be proper to talk about the copies of the proceedings, and how many each state should have? Shouldn't we make a list of states and the number of copies they want, and find out what the cost is going to be and find out how we are going to raise the money?

JUDGE STONE: Do you mean the proceedings of this meeting here today?

MR. BISHOP: Yes.

JUDGE STONE: I think we ought to understand what he has reference to, the question of the proceedings of the Commission. It is a matter which will be determined by the Commission itself, but, as I understand it, Mr. Bishop is now referring to the proceedings of this meeting today, is that correct?

MR. BISHOP: That is right.

CHAIRMAN BASHORE: Well, that is a matter for the Commissioners to decide, I believe.

JUDGE STONE: Mr. Chairman, for Colorado, we will only require one copy of the proceedings of the meeting today.

CHAIRMAN BASHORE: How many copies will Utah require?

MR. BISHOP: Wyoming three.

MR. WATSON: Utah three.

MR. CARSON: Arizona one.

CHAIRMAN BASHORE: New Mexico is not represented. Probably you had better make one for New Mexico. Anything further? There is one matter that should be decided on at the next meeting--I will mention it now--and that is the matter of disseminating information to the press. Do you want a newspaper man to sit in on all the deliberations, or shall the Commissioners prepare a statement to give to the press? That is something that you should be thinking about, I think, to be taken up at the next meeting. There are several ways of doing it. The surest way and the most troublesome way, you might say, because it involves a lot of work, is to have the Compact Commission prepare its own statement for the press. The press will always want to know what you are doing. That is proper; the people want to know.

There is danger, if a newspaper man sits in, that he will get the wrong impression, but, of course, that relieves the Commission of the work of preparing the release. That is something that should be carefully thought about, I believe. Do you have any ideas on that, Judge?

JUDGE STONE: It seems to me that that question should be very carefully considered at the organization meeting. I know it was a matter extensively discussed in the Arkansas Compact, and a plan was worked out, and it seems to me we ought to be giving it some thought. There, there was more than one Commissioner, for each state, and then the Federal representative in that case and one man from each state handled the newspaper releases, and the newspaper men were not permitted to sit in at the conferences. The Federal representative was the Chairman. Such releases as were given out were prepared by these three men, and it seems to me that some comparable arrangement ought to be made when we hold our organization meeting.

CHAIRMAN BASHORE: That is something that needs pretty careful consideration, and I would suggest it be disposed of at the organization meeting to be held in Salt Lake on August 1st.

Anything further?

MR. BISHOP: Mr. Chairman, on the proposition of the expense of the

transcript and the number of copies, I will offer this suggestion in order to put it before the meeting: If it is agreeable with the rest of you, if the gentlemen here will send the copies to us, we will send them out to the states, and a bill for their share, based on the number they get, divided into the total, and we will send each state a bill for that.

JUDGE STONE: That is agreeable to Colorado. Send ours to the Colorado Water Conservation Board.

CHAIRMAN BASHORE: I think there should be a copy prepared for the Commission, and mail them the bill for it.

JUDGE STONE: There is no reason why the state shouldn't take care of that. We can include that in the states' and divide the cost of the Commissioners' copy among the states.

CHAIRMAN BASHORE: I would like to have the Commission furnished one copy. I don't know just how it will be paid for, but they can pay for it if there is no other way to pay for it.

MR. BISHOP: We will pay for it, Mr. Bashore. We can charge that up and just prorate it on the bill and each state pay their share of it.

JUDGE STONE: Mr. Chairman, I move that the Commission adjourn.

CHAIRMAN BASHORE: Is there a second?

MR. BISHOP: I second the motion.

CHAIRMAN BASHORE: It has been moved and seconded we adjourn. Those in favor say "Aye."

(The motion, being put to a vote, was carried.)

(Whereupon, this conference was adjourned.)

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

OFFICIAL RECORD OF MEETING NO. 1

July 31, 1946

Governor's Board Room
State Capitol
Salt Lake City, Utah

MEETING NO. 1
Salt Lake City, Utah
July 31, 1946

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APPEARANCES
UPPER COLORADO RIVER BASIN COMPACT COMMISSION

HARRY W. BASHORE, CHAIRMAN
Federal Representative
Former Com. Bureau of Reclamation
Mitchell, Nebraska.

GROVER A. GILES, SECRETARY
Attorney General of Utah
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COMMISSIONER FOR THE STATE OF ARIZONA:

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Clifford E. Stone Director, Colorado Water Conservation Board, State
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COMMISSIONER FOR THE STATE OF NEW MEXICO:

Thomas M. McClure State Engineer, Capitol Building, Santa Fe, New
Mexico.

COMMISSIONER FOR THE STATE OF UTAH:

Edward H. Watson State Engineer, State Capitol, Salt Lake City, Utah.

COMMISSIONER FOR THE STATE OF WYOMING:

L. C. Bishop State Engineer, Cheyenne, Wyoming.

ADVISERS

ARIZONA:

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Phoenix, Arizona.
Donald C. Scott Consulting Engineer,
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UTAH:

William R. Wallace	President, Utah Water Users' Association, Salt Lake City, Utah.
Thomas W. Jensen	Utah Water Users' Association, Mt. Pleasant, Utah.
Gerald Irvine	Attorney, Utah Power & Light Company, Salt Lake City, Utah.

WYOMING:

Louis J. O'Marr	Attorney General of Wyoming, Cheyenne, Wyoming.
Ernest B. Hitchcock	Planning and Water Conservation Board, Rock Springs, Wyoming.
Emil C. Gradert	Assist. Interstate Streams Commissioner, Fort Bridger, Wyoming.
H. Melvin Rollins	Assist. Interstate Streams Commissioner, Cheyenne, Wyoming.

BUREAU OF RECLAMATION:

John C. Page	Former Commissioner, Denver, Colorado.
E. B. Debler	Regional Director, Region 7, Denver, Colorado.
E. O. Larson	Regional Director, Region 4, Salt Lake City, Utah.
J. W. Dixon	Director, Branch of Project Planning, Washington, D.C.
N. B. Bennett, Jr.,	Branch of Project Planning, Washington, D. C.
A. F. Johnson	Branch of Project Planning, Washington, D. C.
A. N. Thompson	Assist. Regional Director, Amarillo, Texas.
John R. Riter	Denver, Colorado.
C. B. Jacobson	Denver, Colorado.
H. P. Dugan	Denver, Colorado.
Reid Jerman	Salt Lake City, Utah.
J. Stuart McMaster	Salt Lake City, Utah.
C. H. Jex	Grand Junction, Colorado.

PROCEEDINGS

The meeting was called to order by Chairman Bashore at ten o'clock a.m. on Wednesday, July 31, 1946.

THE CHAIRMAN: Gentlemen, the meeting is called to order.

As you all know, we had a preliminary meeting at Cheyenne, Wyoming, which was called by Governor Hunt of Wyoming. And at that meeting certain actions were taken and a record made of what happened. But it was quite informal for the reason that the Compact Commissioners for the governors did not have credentials. But of course you always have to make a start in organizing a body of people to do something and I think that was a very good start.

However, I believe it will be quite appropriate, after the credentials are presented, for the actions which were taken at the Cheyenne meeting to be reconsidered and revoked or modified as the Commissioners may see fit. That refers also to the transcript of the record. Now that record was made and it stands as the record of the Cheyenne meeting, but I believe it will be quite appropriate to consider how much of that record is pertinent to the deliberations of the Compact Commission.

Now, at this time the Chair will call for the credentials of the representative of the State of Colorado, Compact Commissioner from the State of Colorado.

COM. STONE: I present my credentials. And may I say, I also presented them for the record in Cheyenne.

THE CHAIRMAN: Thank you, Judge Stone. I believe it is not a function of the Commission to pass on the credentials of the members. Each state should understand its own business.

COM. STONE: Mr. Chairman, as a matter of information I might just state what my credentials consist of.

THE CHAIRMAN: I think that would be very well, Judge Stone, to give just a general brief statement as to how you happen to be Commissioner from the State of Colorado.

COM. STONE: These credentials set forth Section 9 of Chapter 265 of the Session Laws of Colorado for the year 1937. That section provides that the Governor of the State of Colorado, with the consent of the Colorado Water Conservation Board, may appoint a Compact Commissioner or Commissioners. That pertinent section is set forth in the credentials.

Then the credentials state that at a meeting of the Colorado Water Conservation Board held on the 21st of July, 1946, the following proceedings took place--this is taken from the record of the proceedings of the State Water Board. The proceedings set forth the letter from Governor John C. Vivian of Colorado dated July 2, 1946, addressed to the Colorado Water Conservation Board, appointing me as Colorado's Commissioner to meet with the other states for the purpose of negotiating a compact for the Upper Basin of the Colorado River, and asked the Board to approve the appointment.

Then the credentials further show that it was moved by--setting forth the name of the member of the Board--and seconded that the appointment of the Governor be approved by the Colorado Water Conservation Board. The proceedings show that that motion was unanimously passed and adopted.

Then the last part of the credentials show that I accept the appointment.

THE CHAIRMAN: Thank you, Judge Stone. I would like to have the record show at this point that at the Cheyenne meeting the Federal Representative presented his credentials, which consisted of a letter from the President of the United States and an acceptance by myself as Federal Representative. Those credentials were filed at the Cheyenne meeting and are a part of the transcript of the proceedings of that meeting.

I want to say just this, that my acceptance of the appointment was made for the sole reason of being able to render a constructive public service. I expect to work on that basis.

Now we will call for the credentials of the Commissioner from the State of Wyoming.

COM. BISHOP: Mr. Chairman, the only credentials that I have is a certificate from the Secretary of State of the State of Wyoming identifying me as the State Engineer of the State of Wyoming. And under our state law the State Engineer is Interstate Stream Commissioner for the purpose of assisting in representing the State of Wyoming in negotiation of compacts for division of the waters of interstate streams.

THE CHAIRMAN: You will file that certificate from the--

COM. BISHOP: Well, it was copied in the other record; and here it is, if the lady would like to copy it.

THE CHAIRMAN: If it is part of the other record it is not necessary to resubmit it.

COM. BISHOP: All right.

THE CHAIRMAN: It will be considered a part of this record. We will now call on the Commissioner from the State of Utah.

COM. WATSON: I have, Mr. Chairman, the Certificate of Appointment signed by Secretary of State E. E. Monson, who sets out that on March 1, 1945, Edward H. Watson was appointed by Governor Herbert B. Maw and duly confirmed by the Senate to the office of State Engineer of the State of Utah for the term ending March 1, 1949. The Secretary further certifies that the:

"State Engineer is hereby authorized to represent the State of Utah in all interstate conferences held for the purpose of negotiating and entering into compacts between the State of Utah and one or more sister states for the division of the waters of interstate rivers, lakes, or other sources of supply."

This is a quotation from the Statute, and I will give you the citation in a letter of transmittal.

THE CHAIRMAN: Which will be made a part of the record of this meeting?

COM. WATSON: Yes.

THE CHAIRMAN: Thank you, Mr. Watson. We will now hear from the Commissioner from the State of Arizona.

COM. CARSON: Mr. Chairman, I have a letter from Governor Osborn dated July 24, 1946, addressed to you as Chairman of this Commission, appointing me as the representative of Arizona on this Commission. I will file it with the record.

THE CHAIRMAN: Thank you, Mr. Carson.

(The letter referred to is as follows:)

"Mr. Harry W. Bashore
Chairman, Upper Colorado
River Basin Compact Commission

"My dear Mr. Bashore:

"This is to inform you that I have named Charles A. Carson, of Phoenix, Arizona, as the Arizona representative on the Upper Colorado River Basin Compact Commission.

"As you know, Mr. Carson is Arizona Counsel on Colorado River matters. He is a man of honor and integrity and thoroughly familiar with all phases of the Colorado River question. I know that he will serve with ability, fairness and energy and will be helpful in the many perplexing questions which will confront your committee.

"With all good wishes, I am

(Signed) "Sincerely,
Sidney P. Osborn
"Governor."

THE CHAIRMAN: We will now call on the Commissioner from the State of New Mexico.

COM. MCCLURE: Mr. Chairman, I have a wire addressed to General Louis O'Marr dated July 30th, which states:

"TCM MCCLURE STATE ENGINEER WILL REPRESENT COLORADO RIVER COMPACT MEETING AT SALT LAKE CITY AS NEW MEXICO COMMISSIONER."

Signed, "JOHN J. DEMPSEY"--Governor of the State of New Mexico.

Now, these credentials will probably be followed by a resolution or by a definite certification by Governor Dempsey if he desires that I continue as Commissioner following the Salt Lake City meeting.

THE CHAIRMAN: Yes, Mr. McClure. Will you submit that for the record?

COM. MCCLURE: Yes.

THE CHAIRMAN: And the Chair also wishes to call attention to Governor Dempsey's statement at the Cheyenne meeting in connection with New Mexico's representation at this meeting. Mr. Bishop, can you find that reference?

I think this telegram indicates plainly that the Governor is carrying out his statement that he made at Cheyenne. Will you read that statement, Mr. Bishop?

COM. BISHOP: Mr. Chairman, on page 13* of the proceedings I find this statement:

"CHAIRMAN BASHORE: The Commissioner from the State of New Mexico.

"GOVERNOR DEMPSEY: He is not present, Harry. I think he is in Utah today, but his credentials will be here before your next meeting and you can put them in the record, if you desire, on that basis."

THE CHAIRMAN: I think that is sufficient, Mr. Bishop, is it not?

COM. BISHOP: I was going to give this next one. You can decide if you want it in the record. You said:

"All right, Governor Dempsey of New Mexico has assured us that the credentials of the Commissioner from New Mexico will be available before the next meeting."

THE CHAIRMAN: Now, that completes the submission of credentials, I believe, from the Commissioner of each State.

I believe now it is in order to consider what modifications or verifications should be made in regard to certain actions taken at the Cheyenne meeting, for instance, the appointment of the Federal Representative as Chairman of the Commission. Now it is very properly in order at this time to either modify or verify the action taken by the folks at Cheyenne.

COM. STONE: Mr. Chairman, it seems that each Compact Commission should organize itself. The meeting at Cheyenne was the meeting of a larger group. The Commission itself should, it seems to me, perfect its own organization.

For that reason I move that Harry W. Bashore, the Federal Representative designated by the President of the United States, be made the Chairman of the Upper Colorado River Basin Compact Commission.

* Page 6, Cheyenne minutes in this compilation.

COM. WATSON: Second.

THE CHAIRMAN: The Chair is embarrassed in placing that motion.

COM. STONE: I will put the motion. Gentlemen, you have heard the motion. Are there any comments, any discussion? (No response.) (Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

THE CHAIRMAN: Thank you, Judge Stone. I shall be very happy to try to serve as Chairman.

COM. MCCLURE: I would appreciate it if the record will show that my usual signature is Thomas M. McClure and not Tom McClure, as the wire says.

THE CHAIRMAN: Very well, Mr. McClure.

Now you have for consideration the appointment of a secretary. At the Cheyenne meeting Mr. Giles was, we might say, thrown into the job. And it's up to the Commissioners now to reconsider or verify the action taken at the informal Cheyenne meeting. What is the pleasure of the Commission?

COM. STONE: Mr. Chairman, may I inquire, are the proceedings of the Cheyenne meeting available now?

THE CHAIRMAN: They are, Judge Stone.

COM. BISHOP: I have the copies, all of them, ready to turn over to the states, the number that they ordered. I was wondering, however, if you wanted to go over them and edit them in any way, or just take them as they are?

I might say, for the purpose of the record, that I haven't found very many errors in the minutes. The name of Mr. O'Marr, our Attorney General, one of the appearances from Wyoming, did not show, and I have included that in all the copies. Also Mr. William E. Warne was shown as "Warren." I have corrected that on the first page of all of the copies.

THE CHAIRMAN: Judge Stone, I think we will come a little later to consider that record there, as I mentioned in the beginning. It is a record of the Cheyenne meeting, but it is quite possible that the Commissioners will wish to modify it so far as it pertains to the deliberations of the Upper Colorado River Basin Compact Commission.

COM. STONE: The point I had in mind, Mr. Chairman, was this: that before we select a secretary, shouldn't we discuss the manner in which we are going to keep a record of the Compact Commission? Experience has demonstrated, and particularly on the Colorado River, when the Colorado River Compact was made, that we cannot be too careful in keeping the record of the proceedings of this Commission. And it seems to me that before we designate a secretary we should determine the duties of the secretary and the manner in which we are to keep this record.

I have this in mind, that on other compact proceedings, certain other ones, a complete record was kept in one way. In other proceedings they have been kept in another way. On the Colorado River it is now disclosed, or has been shown, that the proceedings of the Commission are not all available. Some very vital questions were resolved by the Commission, and the record showing the intent and purpose of the Commission is not available on certain material provisions of the Colorado River Compact.

We are now engaged in working out the Compact for the Upper Basin, and for the future and for those who may have occasion in the future to construe any compact which may be made and apply it, we ought to be very careful about our record.

I should like to make this suggestion, just for the Commission to consider, that we keep a complete transcript of the proceedings of the Commission. That then the secretary, or whoever may be designated as such, make a resume of the material portions of that transcript for the purpose of providing a record of the compact proceedings.

That does involve a considerable amount of work on the part of a secretary or whoever may be assigned to do that work, and it seems to me that any record thus prepared ought to be one which is considered and formally approved by the Commission.

That is a procedure which has been adopted in certain other compact proceedings. It may not be the best one, but at least it is a basis for having in the future a record which is so important on any compact. We can't rely solely on loose notes that are kept in the form of minutes. Because, after all, those minutes may evidence the opinion or the impression that the person has who makes those minutes; and the record itself should be the agreement of the Commission as constituting an agreed record.

If that is supported by complete transcript, we should be able to conclude this work with a proper record for the future.

Now, if that procedure should be adopted and recognized as the best procedure, then it may indicate the extent of the duties of the secretary. That is the reason I bring it up at the present time.

THE CHAIRMAN: In that connection, Judge Stone, it is my thought that the Compact Commissioners should, in their attendance at those meetings, from time to time submit carefully prepared statements for the record.

Now, we all talk too much--I do too--but I think we want to keep our record concise and as much to the point as possible. I have some ideas on this that I am going to try out on you later, as to the next meetings, and I have an idea that it will be necessary if you follow my suggestion to do some work. I simply want to emphasize that we should keep a record we will not be ashamed of --make it concise, leave out as much jawbone as possible, and then not be apprehensive about having to refer to it in clearing something up at some future time when the matter comes before the legislatures of the states or the Congress of the United States.

COM. STONE: That is exactly right. And that is the reason I think we need a record aside from the transcript. Because the transcript will include a lot of what we might describe as chatter, and bantering back and forth matters which need not become a part of the record. But this prepared record would include the careful statements of the Commission members and would be reviewed by the entire Commission as constituting a record in the end which will be concise and to the point and as evidencing the intents and purposes which were back of any action taken by the Commission. That would reduce the size of the record and be one which we can submit to Congress or the legislature or that future generations can look into. And yet that transcript may be very helpful in the future when some question may come up. In other words, I distinguish between the transcript and the agreed record of the Commission.

THE CHAIRMAN: Oh, yes. Mr. Bishop?

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COM. BISHOP: I was thinking, in connection with this, that it might be well to have an editing committee appointed to go over this and exclude a lot of statements that are rather immaterial and have no connection with the Compact proceedings.

THE CHAIRMAN: Gentlemen, let's keep on the beam on this. Judge Stone, do you want to put your ideas in the form of a motion?

COM. STONE: Well, if that is the desire of the Chair--that will open it up for discussion.

I move, Mr. Chairman, that this Commission, for the purpose of keeping an adequate and concise record of its proceedings, make provision for the preparation of a transcript of its proceedings, that from such transcript there be prepared by the secretary or some person designated to perform that function, a concise and precise record of all the material matters which take place in Commission meetings, that record to be reviewed and approved by the Commission.

THE CHAIRMAN: Do I hear a second?

COM. McCURE: I will second that motion, Mr. Chairman.

THE CHAIRMAN: Any remarks?

COM. CARSON: Mr. Chairman, as I understand that, the reporter's transcript, made from time to time, will not be published or a part of the record of this Commission?

COM. STONE: That is correct.

COM. CARSON: But the only publication will be the record as later approved by the Commission?

COM. STONE: As later prepared from the transcript and approved by the Commission.

COM. BISHOP: The transcript would be preserved, of course?

COM. STONE: Yes.

COM. BISHOP: So it would be available. If they had done that in the Colorado River Compact we would be able now to find some of the statements that some of us would very much like to have.

COM. STONE: That is true. The transcript should be retained, and should be corrected, probably; but just as a matter of procedure in connection with such an arrangement it would seem that when this record is prepared each time, there should be enough copies for each member of the Commission, so that at the succeeding meeting we can go over that record and correct it for approval.

THE CHAIRMAN: Any further discussion of the motion? (No response.) (Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

COM. CARSON: Mr. Chairman, I would like to nominate Grover Giles as secretary of this Commission.

THE CHAIRMAN: Mr. Giles has been nominated for secretary. Do I

hear a second to the nomination?

CCM. McCLURE: I will second the nomination.

THE CHAIRMAN: It has been moved and seconded Mr. Giles be appointed as secretary. Any discussion? (No response.) (Thereupon a vote was taken and the motion of Com. Carson carried unanimously.)

CCM. STONE: Mr. Giles has got a real job preparing the record.

THE CHAIRMAN: Judge Stone, I feel rather sympathetic towards Mr. Giles from now on.

CCM. STONE: Mr. Chairman, in connection with that do we not have some other matters? There is going to be some expense involved in hiring the reporter to take the proceedings and prepare the transcript. And then there is the question, I presume, of transcript being made available, a copy to each member of the Commission. We ought to determine in what way we are going to obtain the services of a reporter. I assume that we will be meeting from place to place in the Basin.

That has been done in various ways. It can be done so that we get a reporter in different places. We may be some places where we can't obtain a reporter. And then there is the question of the division of the expense of paying the reporter for his or her time, and for preparing the transcript.

THE CHAIRMAN: Yes, those questions are very pertinent, Judge Stone. I believe there is some underbrush, though, that should be cleared away as we proceed.

For instance, at the Cheyenne meeting, a name was selected for this body. I don't believe that we have taken action on that at this meeting to verify or change or to accept it or to reject it. As I recall it, the name informally adopted for this body was the Upper Colorado River Basin Compact Commission. I would be glad to be corrected if that is not correct.

MR. GILES: That is correct.

THE CHAIRMAN: Very well. Is that name acceptable to the Commissioners?

CCM. McCLURE: Mr. Chairman, I move we accept that name.

CCM. BISHOP: I second the motion.

THE CHAIRMAN: It is moved and seconded that the action taken at the Cheyenne meeting be accepted as to the name of this body. Any discussion? (Question is called for. Thereupon a vote was taken and the motion of Com. McClure carried unanimously.)

THE CHAIRMAN: Now, the next matter that I have on my notes here was the relation with the press. And what I mean by that is, how deliberations of the Commission may reach the public in the proper way. I think the Commission should have some control over what goes out to the press. People have a right to know everything that is going on, but the difficulty is to get it to them accurately. The question naturally arises, shall we invite a representative from the papers in the towns or the cities where these meetings may be held? The danger of that is that there are good reporters and there are bad reporters; and sometimes they get things balled up. I don't see how they do as well as they do, however, when they listen to the talk that goes on in these meetings-- I wonder how they can do as well as they can. But that is something we must dispose of.

It might be best to exclude the press and make these meetings executive sessions, and then delegate to somebody the responsibility of giving to the press a prepared statement. That makes more work for the Commissioners, but you have all accepted these appointments, and I assume that you are ready to do a lot of work, so that shouldn't be considered.

COM. McCLURE: Mr. Chairman, these scare headlines can certainly not help the Commission any from the experience I have had in other negotiations, because you can create a tremendous pressure by some headline that looks good on the paper but may not be representative of the item that follows.

THE CHAIRMAN: What is the wish of the Commission in regard to relations with the press?

COM. BISHOP: I know from experience that we have had heretofore sometimes the papers come out with a statement that isn't in accordance with the facts, even; and it seems to me if we are going to allow reporters to be present, and what not, that they should submit to the Commission an outline of what they are going to put in and let the entire Commission approve it.

THE CHAIRMAN: In that connection, Mr. Bishop, that is a good suggestion, but it just won't work for the reason that a lot of these papers have a certain time to come out, and if you put that requirement on, you give some paper an advantage and some a disadvantage, and they are all competitive, as they should be. If you put the papers to that trouble, so the reporter after he has prepared his statement must get the attention of the Commission, I think it takes too much time.

Now, that is just my opinion of it. I took the liberty to ask a young gentleman from one of the local papers to sit in this morning. I told him we might throw him out before we got through, or exclude him later. But am I right on that, or not?

MR. GORDON KIRBY (Reporter, DESERET NEWS): That is right, yes, sir.

THE CHAIRMAN: So, Mr. Bishop, while your suggestion is a good one, I am afraid it won't work.

COM. BISHOP: I agree the facts should be presented to the public, and the press should put it out. But I do know from experience--and I think Judge Stone will agree with that--that some of the meetings of the Committees of Fourteen and Sixteen have been misconstrued and written up so they weren't intelligible. Some of these fellows don't know what an acre foot of water is, and they call it a second foot, and so on; and by the time they get through writing it up it doesn't make sense.

COM. STONE: Mr. Chairman, aren't the Compact meetings in their very nature--don't Compact Commissions meet in executive session except when the Commission votes to have an open meeting to hear from persons who may desire to appear before the Commission? If that is a very essential nature of a Compact meeting, then aren't we obligated to arrange some definite procedure which is fair to the press and fair to the public--and that means that the Commission must assume the task of preparing press releases to be handed to the press except at such times as it may be an open meeting and everyone is permitted to be present?

Now, I take it when I refer to executive session, that means the executive session of the Commission and its advisers. That shouldn't exclude those who are called in by each state to sit as consultants or advisers to

the Commissioners, but it seems it is just a plain proposition of arranging for somebody to be responsible for preparing the press releases, and I can't conceive of anyone who could better do that than the Chairman of the Commission. And he may see fit to review his release with the members of the Commission. That is a matter for him to determine.

But we are five states here; it seems to me no one state should be put in the position where he may inadvertently color the release in accordance with some of his own particular views, and our Federal Representative sits here as representing the Federal Government, and serving as the balance wheel for all the rest of us.

You said that we have got to work--maybe we will put some work on you, too, Mr. Chairman. But I believe the appropriate person to be responsible for the relations with the press and the preparation of releases should be placed in the hands of our Chairman, with the understanding that we should stand ready to assist or review any releases that he may suggest.

THE CHAIRMAN: Some arrangement must be made. Because I think you are technically correct, Judge Stone, that these meetings are all executive sessions. Nevertheless, every state will come in with its advisers, lawyers, engineers and what not; and I, as the Federal Representative, expect to have some advisers. I think they have all got to be muzzled, and somebody has got to be responsible for putting out the right kind of information to the public.

Naturally these newspaper reporters will circulate among those that have been in attendance and try to get something out of them. I think they should keep still about it and have it the responsibility of someone to put it out. And then if he puts out something he shouldn't, it is his problem and the Commission can castigate him and chastise him and whatever they like. At least, they can put their finger on somebody.

COM. MCCLURE: Mr. Chairman, I move that all sessions of this Commission, exclusive of open sessions so decided by the Commission, be executive sessions; that the Chairman of this Commission will prepare and present what press notices that are issued from the Commission. This he may do with the States' representatives' assistance, or by himself.

COM. WATSON: I second the motion.

THE CHAIRMAN: Motion has been made and seconded. Are there any comments? Any discussion? (Question is called for. Thereupon a vote is taken and the motion of Com. McClure carries unanimously.)

THE CHAIRMAN: Well, apparently the Chairman has some work to do. And I will accept that responsibility.

COM. BISHOP: Mr. Chairman, at this point I wonder if it wouldn't be a good idea for each state to announce its advisers, and the Commissioner to announce his advisers, for the purpose of the record?

THE CHAIRMAN: Mr. Bishop, I am not sure that everyone is prepared to do that. I doubt if I will be able to announce the advisers that I feel I am going to need because I think the Federal Representative is going to need a lot of advisers from the Bureau of Reclamation and the Department of the Interior. And whether you are prepared at this time to name them all--

COM. BISHOP: I was thinking the people that are here should be recorded here. And if, for the benefit of the record, we will announce the ones we are responsible for, the ones we have invited to come, or what not.

THE CHAIRMAN: All right, Mr. Bishop, you may announce your advisers from the State of Wyoming.

COM. BISHOP: Attorney General O'Marr; H. Melvin Rollins; Ernest B. Hitchcock and Emil C. Gradert.

THE CHAIRMAN: Are they legal advisers or engineer advisers?

COM. BISHOP: They are just advisers. They are what we call assistant commissioners, except the Attorney General, who is a legal adviser.

THE CHAIRMAN: Well, the Chair, of course, is familiar with Attorney General O'Marr's professional attainments, but I wanted the record to show.

COM. BISHOP: The other gentlemen are assistant stream commissioners, appointed by the Governor, under the Wyoming law.

THE CHAIRMAN: Oh, yes. Thank you, Mr. Bishop.

COM. McCURE: Mr. Chairman, I make a motion that this session of the Commission be considered as open session until further action by the Commission.

COM. BISHOP: I will second the motion.

THE CHAIRMAN: You have heard the motion as made by Mr. McClure and seconded by Mr. Bishop. Is there any discussion? (No response.) (Thereupon a vote was taken and the motion of Com. McClure carried unanimously.)

COM. McCURE: I make that motion on the basis that I feel that several of the states present are not prepared to name their advisers, and consequently we prefer all present from that state to attend this opening hearing.

THE CHAIRMAN: Yes.

COM. BISHOP: Mr. Chairman, I still think we ought to have a record of all these gentlemen here. That is a thing we have always done in all meetings, is have a record of who is in attendance in the meetings.

THE CHAIRMAN: The Chair has no objection to that, Mr. Bishop, and I suggest, in order to do that, you pass a paper around and each person write his name and official capacity--or if he hasn't any official capacity, what state he is from.

(Paper is started around audience.)

Now, the Chair does not wish to monopolize all the discussion here, nor to try to dictate the proceedings. But I do have in mind an agenda, or some work for the next meeting, assuming that we have one. And if the Commissioners have any matter that they wish to take up at this time before we get to the consideration of the agenda, I believe it is now in order.

COM. STONE: I didn't understand, Mr. Chairman. Pardon me. I didn't hear.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. STONE: Mr. Chairman, I do think, in line with the procedural matters we have been discussing, that we should arrange for the manner in which we are going to secure our reporters--reporter or reporters--and the manner in which they are going to be paid. That is quite material.

THE CHAIRMAN: Yes, I think that is quite pertinent at this time, Judge.

COM. STONE: And the number of copies of the transcript which should be available; that is right in line with what we are discussing.

THE CHAIRMAN: Yes.

COM. BISHOP: Wouldn't the transcript, one copy for each state, be enough to go over for preparing it for the final record that you speak of, Judge?

COM. STONE: I should think so, Mr. Bishop. That is all we need.

COM. BISHOP: We don't want a lot of copies of the transcript to get out around, and then when we get the final record we will get as many copies as we need.

COM. STONE: My idea is we should agree on the number of copies. And it seems to me you are entirely correct that we should not have more than one copy of the transcript for each member of the Commission, and that the original should be made available to the Secretary and retained by the Secretary.

Then we should agree among ourselves as to the number of copies of the record when it is prepared and agreed to by the Commission.

COM. BISHOP: Mr. Chairman, in order to get the record straight on this, I make a motion that one copy of the transcript be prepared for each state, and that each state pay its proportionate share of the cost of the same, and that when the final record of the meeting is made, that each state pay for such copies as they need.

COM. STONE: I second that motion.

THE CHAIRMAN: The motion has been made and seconded. Is there some discussion?

COM. STONE: Do I understand, Mr. Bishop, when you say "proportionate share"--what do you mean by the "proportionate share"?

COM. BISHOP: I mean each state would pay one-fifth, if you want to put it that way. That is what I mean.

COM. STONE: Does that include the cost for the services of the reporter?

COM. BISHOP: Yes.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

(Com. Bishop thereupon restates his motion as follows:)

COM. BISHOP: I make a motion that the original of the transcript be prepared for the Secretary, two copies for the United States and one copy for

each state, and that each state pay one-fifth of the total cost of the same, including the service of the reporter; and that when the final record of the meeting is made that each state pay for such copies as they need.

THE CHAIRMAN: You have heard the motion. Do I hear a second?

COM. WATSON: I second the motion.

THE CHAIRMAN: It is moved and seconded that the motion as made by Mr. Bishop be adopted. Any remarks? (No response.) (Thereupon a vote was taken and the motion of Com. Bishop carried unanimously.)

COM. STONE: Mr. Chairman, while we are on the record, a question: There has been some discussion about the record of the Cheyenne meeting, as to how we should determine what portion of that should be preserved. It has been suggested by Mr. Bishop, who has read it, very obviously certain portions should be included. Would it be appropriate for the Secretary, or a committee, as the Commission may determine, to review that record and suggest as parts of our record what portion should be retained, that review to be acted upon at the next meeting of the Commission?

THE CHAIRMAN: I think it is quite pertinent to the deliberations of this body to consider what part of that record shall be made as a record of this Commission. That record stands as the record of the Cheyenne meeting, but that was not necessarily a meeting of the Compact Commissioners.

COM. STONE: That is right.

THE CHAIRMAN: So the Compact Commissioners can decide how much of that record they care to accept.

COM. STONE: To get the matter before the Commission, and in line with the duties which we have assigned to our Secretary, I move that the Secretary be requested to make a review of the record of the Cheyenne meeting held on the 22nd day of July, 1946, and submit his review for the approval of the Commission at its next meeting.

COM. BISHOP: I will second the motion.

THE CHAIRMAN: Any remarks on the motion as made and seconded? (No response.) (Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

COM. BISHOP: Now, Mr. Chairman, is it the idea that these copies that we have here will be destroyed and the only record we have will be the edited record?

THE CHAIRMAN: Mr. Bishop, it would be my idea that they should not be destroyed. The record stands for what it is worth. That is the record of the Cheyenne meeting, and I think probably the governors will want a copy of the record. But we should make it plain that it isn't a record of the Compact Commissioners of the Upper Colorado River Basin States, and we can accept--I say "we"--I mean this body can accept any part of it as its record.

I don't mean it should be destroyed, because I think this Commission has no business saying it should be destroyed. But it has a right to say what part of it it wants considered as its own record.

COM. BISHOP: I have these copies here, Mr. Chairman, I will be very glad to dispose of, and I don't have any list of the number of copies

ordered by each state, but I have a total of nine copies.

COM. STONE: We ordered one, I recall that.

COM. BISHOP: You ordered one. Well, I will give you one and check you off for one. And you will get a bill for that later. Grover, you got one?

MR. GILES: I have one.

THE CHAIRMAN: Off the record. (Discussion off the record and copies of the transcript of the Cheyenne meeting distributed.)

COM. STONE: May I mention a matter that seems appropriate to come up at this time?

I think the record ought to be clear on what basis we are proceeding to negotiate an Upper Colorado River Basin Compact. That matter has been of considerable concern to my state, and no doubt the other states have given it some consideration. The question was also discussed at the Cheyenne meeting. But in this organization meeting it seems to me the record ought to be clear on that subject.

Section 19 of the Boulder Canyon Project Act provides:

"That the consent of Congress is hereby given to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming"--and you will note here seven states are named--

--"to negotiate and enter into compacts or agreements, supplemental to and in conformity with the Colorado River compact and consistent with this act for a comprehensive plan for the development of the Colorado River and providing for the storage, diversion, and use of the waters of said river. Any such compact or agreement may provide for the construction of dams, headworks, and other diversion works or structures for flood control, reclamation, improvement of navigation, diversion of water, or other purposes and/or the construction of power houses or other structures for the purpose of the development of water power and the financing of the same; and for such purposes may authorize the creation of interstate commissions and/or the creation of corporations, authorities, or other instrumentalities.

"(a) Such consent is given upon condition that a representative of the United States, to be appointed by the President, shall participate in the negotiations and shall make report to Congress of the proceedings and of any compact or agreement entered into.

"(b) No such compact or agreement shall be binding or obligatory upon any of such States unless and until it has been approved by the legislature of each of such States and by the Congress of the United States."

Now, the term "such States" does not refer to the five states appearing here and initiating compact negotiations. It refers, in addition to these states, to the States of California and Nevada. Now, it seems that we must make the record very clear that we are not proceeding under Section 19 of the Boulder Canyon Project Act; for if we do, then it can be argued after we make a compact that it is not good until it is ratified and approved by California and Nevada, which ratification and approval may not be forthcoming, and it is a matter which deals solely with the Upper Basin of the Colorado River.

There is a provision in the Colorado River Compact itself--that is Article VI of the Colorado River Compact--which may be some basis for

initiating these compact negotiations. But it seems to me that we have the authority, irrespective of Section 19 of the Boulder Canyon Project Act, or irrespective of Article VI of the Compact, to negotiate a compact, which compact, when approved by the Congress, implies previous consent, and since a Federal Representative has been designated and we are ready to proceed, and in view of the fact that one state or states of the Colorado River Basin may say that we have not proceeded correctly, since the other states under Section 19 should ratify the Compact, we should make it very clear at this time, and on the record, that we are not proceeding under Section 19 of the Boulder Canyon Project Act, but are proceeding independently of that section, and, if you please, independently of the Colorado River Compact, except that we must comply with the provisions of the Colorado River Compact in making any compacts for the apportionment of the waters of the Upper Basin of the Colorado River.

COM. BISHOP: Mr. Chairman, since our Governor, in sending out the notices for the first meeting, cited Article VI as the article under which the meeting was called, it would seem to me there would be no question but what that was the Article we had in mind. And it seems to me that Article covers the situation entirely.

COM. STONE: We shouldn't be put in a rigid position, when we have clear authority, irrespective of that Article or irrespective of Section 19. If we proceed, we are in keeping with the spirit of Article VI of the Compact, and yet we are not saying that we are proceeding entirely under that, because we have authority under the law of compact making to proceed irrespective of it. If that Article were not in the Compact at all, we would have the authority.

COM. BISHOP: Mr. Chairman, Wyoming is willing to concede that we are proceeding irrespective of our Article VI, although we believe Article VI covers the entire situation.

COM. STONE: May I call the Commission's attention to the last sentence of Article VI, which provides:

"Nothing herein contained shall prevent the adjustment of any such claim or controversy by any present method or by direct future legislative action of the interested States."

Article VI itself says we may be free to proceed as we see fit.

COM. BISHOP: Mr. Chairman, I would like to have our Attorney General say a few words on that, if that is in order.

THE CHAIRMAN: General O'Marr.

ATTORNEY GENERAL O'MARR: Mr. Chairman and gentlemen: I am sorry that I can't agree with the Colorado position with respect to our authority to proceed under this Compact. I don't want to take a great deal of time to discuss it, but I also have given the same considerable thought and study.

I think to understand our position here--at least Wyoming's position--we have to go back into history somewhat. The Enabling Act of 1921 contains about the same provision with respect to the states involved being authorized to make the Compact as the Project Act of 1928. In other words, in the Enabling Act Congress gave its consent to the seven states to enter into a compact or agreement providing for the equitable division and apportionment among said states of the water supply of the Colorado River.

Now, taking that literally it meant, as I construe it, that the states would make a division apportioning among each of the states the water of that river. But what was done? The states entered into the Colorado River Compact. Now, they didn't make a division of the water as between the seven states. They made a division as between two groups of the seven states, and that was the only division of water that was made by the Colorado River Compact. In other words, the states placed their construction upon the Enabling Act, giving them the right to make a group division of the water.

Congress acquiesced in that construction because Congress in 1938, in the Project Act, ratified the action of the states.

Now, I think that the Compact itself contemplated a division between the states of the two groups; that is, the groups of the Upper and Lower Basin. Because in the very first article of the Compact, after reciting the major purposes of the Compact, the last sentence reads:

"To these ends the Colorado River Basin is divided into two Basins, and an apportionment of the use of part of the water of the Colorado River System is made to each of them"---

then follows this significant language:

---"with the provision that further equitable apportionments may be made.

Now, what did the Commission have in mind about further equitable apportionments? There have been perpetual apportionments as between the two Basins, 7,500,000 acre feet of water to each. Certainly it didn't have that in mind. And if you consider the fact further, that this Compact contemplates in various parts the rights of the states as to water, it would naturally follow, it seems to me, that the "further equitable apportionment" was intended to divide the water as between the states in the two Basins.

Now, Section 19 of the Project Act, as Judge Stone has mentioned here, provides that the consent of Congress is given to the seven states:

---"to negotiate and enter into compacts or agreements, supplemental to and in conformity with the Colorado River Compact. . ."

It is true, in the first sentence of that Section, the supplemental agreements referred to are somewhat limited by the provisions, which are that such agreements must be in conformity with the Compact and:

---"providing for the storage, diversion, and use of the waters of said river."

But the very next sentence, in my opinion, broadens the scope of the purpose and character of the agreement because it says, "Any such compact or agreement"--that is, the supplemental compact or agreement--"may provide"--among other things, for a division of the water.

Now, what division could there have been intended except a division between the states? There had been a division between the groups of states, and of course, as contemplated by the Compact it couldn't be completed until there had been a division of the water as between the two groups, and also perhaps a definition of the obligation of each state under the Colorado River Compact. Not only that, but the last sentence that I have referred to provides for something more which has nothing to do with the development of the river in providing for storage, diversion and use, because it goes on and authorizes "the creation of interstate commissions and/or the creation of corporations, authorities, or other instrumentalities."

So it seems to me the Project Act really intended the negotiations that we are now entering into for a division of the water as between the individual states.

Now, it is true, as Judge Stone has pointed out here, that the subdivision "b" of Section 19 does read, taking it literally, that there must be the approval of the legislatures of the seven states, but I think that could be read to mean the legislatures of the states entering into the compact for the division of water with respect to themselves and fixing their respective obligations under this Colorado River Compact.

COM. STONE: General O'Marr, may I remark there, my point was-- you have presented an argument as to how you think we might construe it. On the other hand, it might be construed otherwise, that all seven states might have to approve it. And my point is, why should we involve that question when, as a matter of fact, we have authority to proceed otherwise than under Section 19; and if we make it clear we aren't proceeding under it we don't involve that question.

MR. O'MARR: I think that would be as risky as to take the position we are contending for now, which I expect to show here in a moment. As a matter of fact, I don't see why the question is raised because we have all agreed we are going to have a meeting; we have agreed we are going to divide this water.

Now, what difference does it make whether we are operating without express authority, or whether we are operating under express authority? That is the point I am trying to make here.

COM. WATSON: I wish to ask this question: Did not this further apportionment refer to an apportionment of the surplus in 1963, and was it not considered at that time and by Mr. Hoover especially that there was five million acre feet more water in the River than we now find, consequently was not there additional water to be apportioned between the two basins at that time?

MR. O'MARR: There would be no need for a general statement here in a case where an express provision is made for it in the Compact in Section "f" of Article III of the Compact. There express provision is made for a further allocation of the water after 1963 under certain conditions, of course. So I say that there would have been no need for this general statement or general provision for further equitable apportionment if it had referred to or was intended to refer to the apportionments that were expressly provided for in the Compacts.

Now lawyers of course know that the practical or the administrative and executive construction of these Acts are largely followed by the courts. That is especially true of the Federal courts, where the meaning or the intent of the legislative action is uncertain.

Now, I state here that the Commission which negotiated the Colorado River Compact made a construction as to its meaning that was acquiesced in by the Congress and so that the states involved really placed a construction upon the statute under which they were acting. The Compact itself says that they were acting under the Enabling Act of 1921. And Congress approved the Compact containing that provision.

But that's not all. If you will read the appointment of the Federal Representative at this meeting you will find that the President himself based his appointment upon Section 19 of the Project Act of 1928, and he

also stated there--may I read that? This is what the President says:

"Pursuant to the Boulder Canyon Project Act (Act of December 21, 1928, Chapter 42, 45 Stat. 1057), granting the consent of the Congress to the States of the Colorado River Basin to negotiate and enter into compacts or agreements supplemental to and in conformity with the Colorado River Compact and consistent with the Boulder Canyon Project Act, you are hereby appointed as the representative of the United States to participate in the coming negotiations of the States of the Upper Colorado River Basin and to make a report to the Congress of the proceedings and of any compact or agreement entered into."

So there we have an Executive construction or interpretation of the Project Act. Moreover, that is the only Act of Congress that I know of which permits or authorizes the appointment of a Federal Representative to represent the United States in negotiations of this character.

So I see no objection to our proceeding under the provisions of that Act. It has been customary, of course--at least it was in the case of the Colorado River Compact--to refer to the authority under which they are proceeding. I don't think that is absolutely necessary, because the law speaks for itself.

If it would be less objectionable to Judge Stone here not to make any reference to this provision of the Project Act in the Compact which we may negotiate, I would see no objection to following that idea.

COM. STONE: General O'Marr, I want to make my position clear. I object to any implication whatsoever that we are proceeding under Section 19. And for that reason it is my position the record should be made clear that we are not proceeding under it and we have, after you have concluded your statement, I think, further studies on that which we would like to offer.

MR. O'MARR: That is the conclusion I have reached in studying this question.

COM. STONE: I don't object to Article VI, but I do object to Section 19, proceeding under it.

MR. O'MARR: It seems to me that if we are going to follow out the position of the Government in this thing we have got to operate or consider ourselves operating under Section 19 of the Project Act.

COM. STONE: As a matter of fact, we feel that the Government appointment itself, if it is construed in the way you construe it, is dangerous. I don't wish to lay ourselves liable to attack on our proceedings by any state after we have been able to adjust the use of waters by the States of the Upper Basin.

MR. O'MARR: Thank you very much, gentlemen. I think that any court that this might be presented to would follow the construction I have mentioned here, in view of the history of this legislation and the Acts not only of the Colorado Commission, but the action of the President in making the appointment and basing it, as he has clearly done, under the Project Act.

COM. STONE: Mr. Chairman, Mr. O'Marr has clearly stated his position. May I ask your permission to ask Mr. Breitenstein, the attorney for the Colorado Water Conservation Board, who has prepared a brief on this subject setting forth the views of the Colorado people, to submit his conclusions on this subject?

THE CHAIRMAN: Judge Stone, before you do that I would like to state my views on the subject. I am not a lawyer, but I can read the English language. And I have associated with lawyers about forty years.

It is my conception that the President is relying on the Boulder Canyon Project Act in its entirety, which includes the Santa Fe Compact.

Now, there is one difference in the consideration of this Compact by the Upper Basin States, as I see it, and that is that a Federal Representative must participate in a negotiation. I believe that compacts have been worked out and ratified in other basins, sub-basins, without a Federal Representative being present. But you have that definite limitation in the Boulder Canyon Project Act, and perhaps that is the only limitation--I don't know--but certainly that is a limitation, and that limitation has been provided for by the appointment of a Federal Representative.

I really don't see any merit in trying to tie it to any one particular section.

Now, that expresses my views, gentlemen, and we will now hear from Mr. Breitenstein.

COM. STONE: May I for the record make it clear that Colorado believes that in any event and under whatever section or provision of law we proceed, whether the general law or by some specific provision, that there must be a Federal Representative in these negotiations? I think that is advisable in all compacts.

But I should also like to say that under the law, states may proceed without any previous authority being given by Congress. That has been decided many times. And that subsequent approval by the Congress implies previous consent.

But aside from that, certainly on the Colorado and in most compact negotiations, there should be a Federal Representative. And my state would not want to proceed without one. However, we do not believe that any law is necessary for the appointment, any statute or specific provision of law is necessary to appoint a Federal Representative for a particular compact negotiation.

THE CHAIRMAN: Just a moment, Judge Stone. Do you agree or not that in this particular case it is absolutely necessary for the appointment of a Federal Representative?

COM. STONE: I agree that it is necessary from the point of view of policy and appropriate proceedings. But I don't agree that you have to have, either in the Boulder Canyon Project Act or by any other specific provision of law, the authority for the appointment of such a Federal Representative. If a Federal Representative is appointed and all the states proceed and the Federal Representative himself proceeds to function and makes a report to Congress, his appointment is proper, and that appointment in itself is recognized by Congress, and the States, by the ratification of the compact and the approval of Congress so that it seems to me that is a legalistic question that is avoided by the actual procedure whereby a Federal Representative is appointed and participates.

That is my position on it. Mr. Breitenstein can probably enlighten you further on that.

THE CHAIRMAN: Mr. Breitenstein.

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MR. BREITENSTEIN: Probably there is very little I can add to what Judge Stone has said. I am sure that the Commission and all of the states wish to have a Compact here which is free from legalistic objections which might be raised by any state to upset the work which is done here.

For that reason, the determination of the authority under which the States are now meeting seems to me to be an important feature which should be defined at the outset of your negotiation.

And I might say that I disagree one hundred per cent with the position which has been taken by the State of Wyoming in regard to this. Perhaps it would be well to consider just a little elementary law on the set-up of our government.

The states, as you all know, have such powers as they did not surrender to the Federal Government. Before the United States Constitution was adopted the states had the power to enter into compacts and agreements, and that has been recognized by many decisions.

The only restriction placed upon the power of states to enter into agreements or compacts by our Constitution is that the consent of Congress must be obtained. Except for that the states have plenary power to enter into compacts or agreements, unless by some other voluntary action they have given up that power.

Now, so far as these states are concerned, there is no provision of the Boulder Canyon Project Act which in any way interferes with that plenary power of the states. And since there is none, I say that it is a grave error of judgment to tie these proceedings in to any provision of the Colorado River Compact or of the Boulder Canyon Project Act; and it is particularly dangerous to tie them into the Boulder Canyon Project Act, because clearly, in my opinion, Section 19 of the Boulder Canyon Project Act requires the consent of each of the seven states for there to be a valid compact. In that I thoroughly disagree with Attorney General O'Marr. Seven of the states would have to agree, in my opinion, before you would have a compliance with Section 19 of the Boulder Canyon Project Act. And I apprehend that none of us wish to have a situation where some state can come in and overthrow all the work that might be done.

So why, in the name of Heaven, do you tie yourself to a provision which can be used as a knife at your throat to kill your efforts to have the compact done?

Now, bear this in mind also. The Boulder Canyon Project Act is an Act of the Congress of the United States. It is not an Act of the Legislature of Utah or Wyoming or Colorado or Arizona. The states did not in any way become bound by the provisions of the Boulder Canyon Project Act except by such action as they voluntarily took after the Act was passed. And none of them that I know of took any act which restricted their power to compact by requiring compliance with the provisions of Section 19. That, I say, is out of the window.

Now you come down to Article VI of the Compact and you recall that Article VI starts out by reference to a claim or controversy and goes on and says what can be done.

Are we conceding right here and now that there is a claim or controversy? And if we are conceding it, what is the claim or controversy?

So, if you are going to proceed under Article VI, it seems to me that

something further has to be done to define what you are trying to do here. But Article VI in its concluding paragraph specifically recognizes the rights of the states to proceed as they had the right and power to proceed in the past.

Now you come down then to the question of the procedure to be followed. Do you have to have a Congressional Act giving you the power to enter into a compact? The answer to that is clearly no. Take water compacts. In Colorado we have the La Plata Compact, with no prior Congressional Act and no Federal Representative. We have the South Platte Compact, without prior Congressional Act and no Federal Representative. We have the Costilla Creek Compact, which was approved by Congress last month, with no prior Federal Act and no Federal Representative.

I am sure if you will read the compacts between states which have been made and approved by Congress in the history of our country you will find that better than two-thirds of those compacts had no prior Congressional assenting legislation and the participation of no Federal Representative. So you do not need that to have a legal compact.

Now, I thoroughly agree that the states here should not meet and compact without a Federal Representative. That is, in my opinion, more than desirable; it is necessary.

The question of the procedure to be followed in the workings of the Federal Government to obtain the appointment of a Federal Representative is something which is solely the concern of the Federal Government. Under the letter appointing Commissioner Bashore here, it seems to me that the President has referred to what he thought were appropriate justifications for the appointment, and the appointment is proper. But that does not in any way tie the hands of the states as to their position in negotiating this compact.

And I say to you that if you take the position that you are proceeding under the Boulder Canyon Project Act, you are merely furnishing material for some other state to come in in the future and upset possibly what you are doing.

There are two things in this letter which I think are important. First, the letter does not refer to Section 19 of the Boulder Canyon Project Act. There is no reference in the letter to Section 19. So why should we bring it in?

COM. BISHOP: That is right.

MR. BREITENSTEIN: Next, the letter refers to the Boulder Canyon Project Act and says--perhaps I had better read it to get the point:

"Pursuant to the Boulder Canyon Project Act. . . granting the consent of the Congress to the States of the Colorado River Basin to negotiate and enter into compacts or agreements supplemental to and in conformity with the Colorado River Compact and consistent with the Boulder Canyon Project Act, you are hereby appointed as the representative of the United States. . ."

The phrase expressly states it is in conformity with the Colorado River Compact and says shall be consistent with the Boulder Canyon Project Act.

I take it that the President did not mean by this letter to tie

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the states down to Section 19 of the Boulder Canyon Project Act. The President says two things: that there must be a proceeding in conformity with the Colorado River Compact--that is, we must recognize the terms, provisions and conditions of the Colorado River Compact, and I am sure that everybody at the table here has that thought in mind; and next, that it shall be consistent with the Boulder Canyon Project Act. And I heard no suggestion that these proceedings would in any way be inconsistent with the Boulder Canyon Project Act.

So that I say you can proceed under this letter of appointment of Mr. Bashore as the Federal Representative to enter into the compact which you desire to make here, and if your record shows clearly that you are not proceeding under Section 19 of the Project Act there can not be the legalistic objection which otherwise might be raised to the results of your labors.

MR. GILES: Mr. Chairman, may I speak as Attorney General of the State of Utah in asking Mr. Breitenstein this question?

In your statement you stated that is is not only highly desirable that a Federal Representative sit in these negotiations, but you said it is necessary. What I would like to know is, do you mean necessary by reason of specific authority?

MR. BREITENSTEIN: No, you have got to get your compact and Congressional approval of your compact, and Colorado had one very unfortunate experience in compacting.

Colorado had a compact with Kansas and Nebraska on the Republican River. No Federal Representative participated in the making of that compact, and when we got back to Congress that point was raised. And while we did ultimately get Congressional approval, the President vetoed it. And while he doesn't say so in his veto, I understand one of the points which was raised was the lack of participation by a Federal Representative.

COM. STONE: It was not a legal objection, but a policy.

MR. BREITENSTEIN: A practical objection.

MR. GILES: That was what I wanted to get at. I wanted to follow up your question to Judge Stone.

THE CHAIRMAN: Thank you, Mr. Breitenstein. Now, we have had a lot of conversation. What are we going to do about it?

COM. CARSON: Mr. Chairman, it seems to me that it is very clear that this compact, if made, and when made, will not be effective unless and until it is ratified by the respective legislatures of the respective states and by the Congress. I do not think that the states are bound by any provision that limits their right of compacting, which is inherent in their sovereignty, subject to those conditions. So I think that we are safe in proceeding to negotiate a compact, and if we can work one out and it is ratified by the legislatures and by Congress it will be fully effective, and it is not necessary to tie down the specific authority here to compact to any particular provision of that statute or of any law. And as I understand it, that is what Judge Stone desires to see, that we are proceeding under the sovereign capacity of states to compact, subject only to ratification by Congress and the legislatures.

COM. STONE: That is my position. I think the record should be clear that we are proceeding accordingly, and that no implication can be made in the future that we are proceeding under Section 19 of the Boulder Canyon Project Act.

COM. CARSON: That is right.

COM. BISHOP: Mr. Chairman, for the purpose of the record I would like to say that Wyoming considers that there is a controversy, as provided by Article VI, subsection (c) which reads:

"...as to the allocation of the burdens incident to the performance of any article of this compact or the delivery of waters as herein provided;"

and subsection (e), which reads:

"...as to the diversion of water in one State for the benefit of another State. . ."

COM. STONE: Mr. Chairman, to bring this matter to a conclusion, I make a motion that the record show that the five states of Arizona, Utah, Wyoming, New Mexico and Colorado are proceeding to negotiate a compact for the apportionment of the waters of the Upper Basin of the Colorado River and for the purpose of determining obligations at Lee Ferry of the respective states under the Colorado River Compact, under their authority to compact as sovereign states, and that we are not proceeding under the provisions of Section 19 of the Boulder Canyon Project Act.

COM. WATSON: Second the motion.

THE CHAIRMAN: You have heard the motion. Is there any discussion?

MR. GILES: As Attorney General again I speak--as Secretary I have no authority to speak but I think as Attorney General I perhaps do.

THE CHAIRMAN: You can act in a dual capacity, Grover.

MR. GILES: I am wondering, Judge Stone, if it is necessary to go beyond the statement that you are proceeding as sovereign states? I don't believe you have to negative the idea that you are not proceeding under Section 19.

COM. STONE: I am willing to eliminate the part of my motion referring to Section 19 on the theory that the motion with that eliminated carries the same implication.

THE CHAIRMAN: Now off the record.

(Discussion off the record.)

THE CHAIRMAN: Will you read the motion as amended?

(Com. Stone's motion was thereupon read as follows by the Reporter:)

"I make the motion that the record show that the five states of Arizona, Utah, Wyoming, New Mexico and Colorado are proceeding to negotiate a compact for the apportionment of the waters of the Upper Basin of the Colorado River and for the purpose of determining obligations at Lee Ferry of the respective states under the Colorado River Compact, under their authority to compact as sovereign states."

COM. BISHOP: I second that motion with the understanding that you add to it that everything pertaining to Section 19 of the Boulder Canyon Project Act and sections and subsections of the Colorado River Compact be stricken from the minutes of this meeting.

COM. STONE: I don't know why we should strike it because it discloses on its face the purpose of the motion. And if we begin to strike discussion that leads up to conclusions we lose the effect of the record. I wouldn't like to strike that.

COM. BISHOP: I will second the motion without any stipulation.

THE CHAIRMAN: You have heard the motion as stated by Judge Stone and seconded by Mr. Bishop. Is there discussion of the motion? (Question is called for.) (Thereupon a vote was taken and the motion of Com. Stone, as amended, unanimously carried.)

COM. BISHOP: Mr. Chairman, in order to shorten up the minutes, I would like to move--

THE CHAIRMAN: Is this on the record now?

COM. BISHOP: Yes. --that the statement that I made pertaining to Article VI of the Colorado River Compact be stricken from the minutes.

THE CHAIRMAN: Do I hear a second?

COM. STONE: I think we would all consent to that if that is Mr. Bishop's wish.

COM. McCLURE: I will second the motion.

THE CHAIRMAN: The Chair will order it stricken from the record if there is no objection.

We are consuming a lot of time here and it is now twelve o'clock. But at the Cheyenne meeting the Chair requested Mr. Carson from Arizona to make a statement at this meeting defining the limitation of the participation of the State of Arizona in the deliberations of this proposed compact. Mr. Carson, are you ready to submit such a statement for the record at this time?

COM. CARSON: Yes.

THE CHAIRMAN: You may proceed.

COM. CARSON: Part of Arizona is in the Upper Basin as defined by the Colorado River Compact, and Arizona is therefore entitled to share in the apportionment of the use of the 7,500,000 acre feet of water apportioned to the Upper Basin by the Compact for use in that part of Arizona which is in the Upper Basin. Under the terms of the compact, the four states of Colorado, New Mexico, Utah and Wyoming make deliveries of water at Lee Ferry for use in the Lower Basin, which comprises California, Nevada, most of Arizona, and parts of New Mexico and Utah.

That part of Arizona which is in the Upper Basin, and those parts of New Mexico and Utah which are in the Lower Basin have no part in the obligation of the four states to deliver water at Lee Ferry. Arizona therefore can very properly join in a compact apportioning the use of water apportioned to the Upper Basin by the Colorado River Compact, but in doing so must be careful to preserve her rights as a Lower Basin state.

That part of Arizona which is in the Upper Basin has not been sufficiently investigated as to water supply and beneficial uses of water, present and potential. We will, however, proceed to secure information as rapidly as possible upon the question of the water supply and beneficial use of water in

that portion of Arizona which is in the Upper Basin for presentation to this Commission at a subsequent meeting.

THE CHAIRMAN: Gentlemen, you have heard Mr. Carson's statement of Arizona's limitation and participation in this proposed compact. Are there any comments?

The statement will be accepted for the record without a motion. I think that is proper.

Now, what is the pleasure of the Commission? It is now twelve o'clock. Shall we proceed to twelve-thirty and meet at two? I would like to accomplish something at these meetings, and we take up a lot of time.

COM. STONE: Would it do the same thing if we recessed now and reconvened at one-thirty?

THE CHAIRMAN: That is all right with me. Without waiting for a motion to adjourn, the Chair will adjourn the meeting to be convened at one-thirty.

(12:05 p.m. Noon recess.)

(1:30 p.m. Meeting resumed.)

THE CHAIRMAN: Gentlemen, the meeting will now come to order. It is now three minutes to two. There are several things that must be disposed of this afternoon, and I submit for the consideration of the Commission the question of collecting certain information, or as much of it as possible, to be available for the consideration of the full Commission at its next meeting. I make no attempt to dictate in this matter, and I offer this as a suggestion for the consideration of the Commission, that each state submit for individual drainage areas and streams and in summary form the following:

1. The average virgin flow reaching the state boundaries.
2. The water now delivered at the state line.

I will go through this rapidly, and then I will go through it again.

3. The areas irrigated.
4. The value of annual crop production under present conditions.
5. The cost of the works.
6. The annual cost of operating the works.
7. The cost-benefit ratio of existing developments.
8. The area desired to be added.
9. The estimated capital cost of each addition.
10. The estimated annual cost of operation.
11. The estimated annual benefit.
12. The cost ratio for areas added.
13. The estimated cost ratio for the full development.

Now, off the record.

(Discussion off the record.)

THE CHAIRMAN: I have submitted this for your consideration and I would like to have an expression from the Commission as to the necessity or modification or addition of the program that I have suggested.

COM. BISHOP: Mr. Chairman, I wonder why we should go into the proposition of the present crop values unless we are going to consider that lands in the lower areas are of more value and for that reason probably should have a larger share of the water? It seems to me we should confine our activities to the matter of the lands to be irrigated, the water to be divided and the obligation of each state in delivering their share of the water at Lee Ferry.

COM. STONE: Mr. Chairman--

THE CHAIRMAN: Pardon me just a moment, Judge Stone. Of course I will not argue that question at all. That is in the hands of the Commission as to the need or lack of necessity for this information. It is offered as a suggestion to get this Commission to work. Now, if you know of any easier way to get at it or get away from some of this and eventually work out a formula, that's fine and dandy. I am not arguing the position.

COM. BISHOP: I agree with your position with the exception of that, Mr. Chairman. But it seems to me right there you are hitting on a soft spot. And I am sure that Wyoming is not going to concede that the water that originates on our watershed should be taken down the stream for use on lands in some lower area just because land down there is more valuable.

THE CHAIRMAN: Well, Mr. Bishop, let me ask you a question: How are you going to determine the distribution of the water within your own state? On what basis are you going to make an allocation in your own state, which you will do, subconsciously or otherwise, in the allocation between the states? Would that information be of any benefit to you in that respect?

I agree with you thoroughly in what you say as to the relationship between the states. But within the state I am thinking of.

COM. BISHOP: I wouldn't think we would want to bring it to this Compact Commission if we used it in our own state. I think that would be a matter that we would decide among ourselves.

THE CHAIRMAN: Any further remarks on the suggestion made by the Chair?

COM. McCLURE: Mr. Chairman, some of these things in my state are going to be pretty hard to determine now--

THE CHAIRMAN: I realize that.

COM. McCLURE: --without any investigation at all of the project plan.

THE CHAIRMAN: I realize that, but I think those investigations should be made and completed and can be made and completed. We can't operate on hot air.

COM. McCLURE: I grant you that. But I thought that you were talking about something to be presented at the next meeting.

THE CHAIRMAN: As much of it as possible.

COM. BISHOP: That is practical.

THE CHAIRMAN: Now, some of the states are in better position to present it than others. But we have got to get this thing started some way, or somehow, and there is no use having a meeting with no program or no objective.

COM. McCLURE: But if we had that information I would be in a whole lot better shape to tell this Commission how much water we want, I will tell you that.

THE CHAIRMAN: I realize that. But I think the information should be obtained.

Now, how much of it can be assembled by the time of the next meeting is another question I don't know. It is going to be a lot of work on the part of the Reclamation Bureau in segregating this data and getting additional data, very likely. Now the information, as I understand it--and I haven't read the report--is not segregated by states or drainage basins within the states. But you are going to have to have that sooner or later in my opinion.

But don't put me in the position of arguing what you are going to do. I am trying to suggest something on which we can base our procedure.

COM. McCLURE: Mr. Chairman, I think that information would be valuable information for the Commission.

COM. BISHOP: Mr. Chairman, in the matter of the economic studies, it would seem to me that we should all accept the study that has been made by the Bureau of Reclamation, because we have pretty near got to go by studies that have been prepared by some agency that is at least supposed to be neutral.

I hadn't planned, as far as Wyoming is concerned, on going into the matter of economic studies. I will say that we don't agree one hundred per cent with the Bureau, but we figure that we have got to take the judgment of someone. We would rather agree on the Bureau of Reclamation experts than anyone else that we have in mind.

THE CHAIRMAN: Well, Mr. Bishop, I had no notion that you would reject the information made available by the Bureau of Reclamation. But I do believe that you will need it in a little different form--

COM. BISHOP: Yes.

THE CHAIRMAN: --segregated in a little different arrangement.

Now, perhaps the Chair overstepped the bounds of propriety in suggesting this program. But any other suggestion, or a better suggestion, or a modification of it, certainly we want to consider.

COM. STONE: Mr. Chairman, I agree with the Chairman that before we attempt to discuss the allocation of water among the states and the obligation at Lee Ferry of the various states, we need to consider the pertinent data, engineering information, which have to do with the question of water supplies and the factors which determine the apportionment of those water supplies and determine the questions of respective state obligations at Lee Ferry.

But I suppose you want a frank discussion of some of these items.

I can't conceive why, at least at this time, and I can't see at any time in the future why a study of annual costs and cost ratios to benefits, cost of each addition to a project, and those matters, have anything to do with the apportionment of water of the River Basin among the interested states. As a matter of fact, we are apportioning waters for all time to

come, probably, and that matter of cost ratios and benefits may change. No state should have its rights in water determined by the cost of projects or the ratio of cost to benefits.

It seems to me that the important question here before us from a factual point of view is the matter of water supplies, the matter of the available water supplies in each state, the question of irrigable land, and matters which will be helpful in determining what is each state's equitable share of the water, irrespective of what we may do with that water some time in the future. We can't say today what we may do some time in the future, and we don't want to determine our rights to water on the economics with respect to specific projects as they exist today.

Now, Mr. Bishop referred to the Bureau's report. I have great respect for the Bureau, and I have recognized fully the work which the Bureau has done in getting up this report. But we have been in the habit, in our state, of making some independent investigation ourselves on some of these matters.

In the first place, there may be some conclusions in this report, so far as they apply to this project, on which we do not fully agree. And if so, we ought to know.

In the second place, there is certain information needed in order to make the Compact, which is not contained in this report. That should be determined.

And for us to say we are relying on experts--we recognize them as experts, but experts disagree sometimes. And we are obligated to our own people to make some independent studies on these matters.

There is a third question which I think might be helpful to suggest at this time, and what I am suggesting grows out of experience in other compact-making. It often happens that if we do sit down with qualified people, engineers who have studied this river, and representing the states, very often we can agree upon basic facts. And to the extent that we agree upon basic facts we make easier the task of allocating water. Possibly we can agree upon all of the basic facts. And it would seem we ought to adopt a procedure whereby we would make a joint study through the engineer advisers to see where we agree and where we disagree. Possibly we will agree on a lot of it. And there ought to be established some procedure.

Mr. Chairman, I anticipated that this would be a question the Commission would want to determine, and I asked Mr. Patterson to go into that matter of engineering data which seemed necessary.

And I would appreciate it if we might hear from him on that question at this time. He is the Chief Engineer of the Colorado Conservation Board, and is one of my advisers. And I would like it, since he has given some study to this, if he could speak briefly on this subject.

THE CHAIRMAN: We want a full and frank discussion, having in mind always that the Commission is expected to get results. Now, we must set up some sort of a procedure at this time, or a program that we expect to work out--

COM. STONE: I think that is entirely right.

THE CHAIRMAN: --in the establishment of basic facts. Now, if the facts are all available on which the Commission thinks it can operate, why, let's have them.

Now, Mr. Patterson, we would like to hear from you.

MR. PATTERSON: I will try to keep my remarks confined to the statement you just made--if the facts are all available, let's have them--and further, limit it to water.

It seems to me that we could properly do that in this opening phase of this study by this Commission, because as I understand it, what you propose to do is to divide up among the states the quantity of water heretofore allocated to the Upper Basin by the existing Compact and to define your relative obligations to meet the delivery obligation at Lee Ferry.

On that question I will make the statement that there is nothing in this report of the Bureau of Reclamation concerning the sources of the waters of the Colorado River above Lee Ferry by states. And it seems to me that it would be futile to ask one state to assume an obligation to deliver water at Lee Ferry when Nature, and not that state, produces the water.

So I say the first thing that you will need to do is to assemble information and agree upon it as to the amounts of water which the states above Lee Ferry contribute to the flow of the Colorado River.

The next step, as I see it, is that in each of the individual states determinations will have to be made of the amounts of water leaving state boundaries.

Then the question of conveyance loss to Lee Ferry enters into the picture, and in my opinion there is a substantial loss of water, for example, from the Wyoming boundary to Lee Ferry, as this river flows through Utah and part of Arizona.

There is nothing in this report to guide you as to the amount of the water that will arrive at Lee Ferry after you add up the amounts passing the state boundaries. Then you are asked to divide up a quantity of water of about seven and a half million acre feet, which is a good deal more than is now being used in the Upper Basin, that actual use being something over two million acre feet. The rest of that water now to be divided up will be accomplished by various types of development--irrigation, power, exportation, silt control, streamflow regulation, and so forth.

It seems to me that you are going to need information about some of those details to work out an allocation among the states or an apportionment of the Upper Basin share among them, keeping in mind the physical ability of each state to produce water and to deliver water, and keeping in mind, too, that the ability of each state to use and consume water is largely dependent upon what Nature produces within its boundaries. There are some exceptions to that general rule, but I believe it does prevail here.

Now, it seems to me there that you must start with water and work up information that you understand and can accept and can agree to, I hope with the aid of the Bureau of Reclamation in working these things out, because all Federal interests must also be satisfied, and understand what you are dealing with. I predict if you don't do that your meetings from here on will be very much delayed by arguments about facts that can be worked out in advance and to the satisfaction of everyone interested.

I want to point out some other little matters that you perhaps could possibly go into. There is a figure developed in this report--the most of the details of that analysis appear in the report--showing under virgin conditions a flow annually at Lee Ferry of 16,270,000 acre feet.

Please understand that I am not attempting to criticize or suggest that you adopt any other figure. But I do forecast this, that when you go into these various river and reservoir operation studies--and by the way, there is nothing in the report regarding the effect from the standpoint of streamflow regulation of reservoirs proposed for construction along the main river and its principal tributaries above Lee Ferry--that is another matter you will have to undertake as a study. When you go into that question you are going to have to use this information not by annual or long-time averages, but more by monthly amounts, and if you encounter what I have in trying to work up the information requested of my Department by the officials and representatives of Colorado, you will be startled by one thing, I am sure--that here is a report of the Secretary of the Interior, sponsored by the Bureau of Reclamation, which shows the annual value at Lee Ferry; and another agency of the Department of the Interior, the Geological Survey, have recently published a report giving their estimates of the quantities of water annually at Lee Ferry. From 1897 to 1922 those two annual values are in material disagreement. And until one or the other of those official records is adjusted to something that suits you, I predict that you will have a good deal of dispute.

Now, as to breaking down the water supply as to its sources above Lee Ferry, I imagine you are going to have to rely largely upon information published by the United States Geological Survey. And if you do, then it may be that the figures published by that agency of the recorded flows at Lee Ferry from 1897 to 1922 may fit in with those Upper Basin figures published by the same agency, and you may elect, after that is given consideration, to perhaps adopt those figures. I am not trying to inject anything in this picture to interfere with the study program that you have outlined, Mr. Chairman--but to go back to the one basic statement that is made here, this Commission does have an immense amount of work to do. What you do in this field of factual information is the basis, the groundwork, and the starting-point of all of your future and further negotiations.

I do want to add this: that while it would be of great value in planning in the states individually and in assigning portions of their water supply to individual projects, to have all of the agricultural and economic information that your outline indicated, my own opinion is that it is not essential to the initiation of these compact negotiations. I am quite confident that if it should appear that our lands now or in the future were going to be less productive than the lands in Utah, Wyoming or New Mexico--I am quite confident that fact would not disturb our claiming our right to some water.

In other words, we are dealing here with an existing compact in which the division of water between the Basins was not made on any stated comparative data of that character. And it seems to me that you are borrowing trouble if you go into those matters as the sole basis of this work. I realize that each state, after its share and its obligations are specified, may want for its own purposes of assigning water to individual projects to have that information. But I doubt if it is a matter that is pertinent to this division of a pre-determined quantity of water and a pre-specified obligation among the several states involved.

I think that is all I would care to offer on that right now.

THE CHAIRMAN: Thank you, Mr. Patterson. Well, it seems that the suggestion of the Chair has drawn a little fire. We'll see if we can get some more. Mr. Wilson?

MR. WILSON: Mr. McClure has asked if I want to say anything. And I don't know whether I can contribute anything.

THE CHAIRMAN: Don't feel embarrassed about that.

COM. MCCLURE: I would like Mr. Fred E. Wilson to say a few words. He is Special Assistant Attorney General and represents our Interstate Streams Commission as legal adviser.

THE CHAIRMAN: Very well.

MR. WILSON: I just want to say this, referring to the suggestion of the Chairman as to what data and information he suggested ought to be before the Commission--I will say I am inclined to agree with the Chairman that data and information and perhaps other information will be necessary if this Commission proposes to allocate all the water, the 7,500,000 acre feet, among the states.

In other words, I don't see how you can possibly allocate the 7,500,000 acre feet among the states until you have this basic information. No state would be in a position to be able to ascertain or uphold any suggestion as to quantity unless this information was available--unless you want to divide the water on the basis of equality. If that is the idea, of course this Commission can make a division of all the water on the basis of four sovereign states, with a consideration of Arizona's interest to a portion. Now, you can do that without any data or any information, I should think. But unless you are prepared to do that, and I apprehend very few states would agree that is the basis on which the allocation should be made--although I think New Mexico would agree to that readily, here today.

If you are not going to do that, I think the information that Mr. Bashore, your Chairman, has suggested, is essential, and you have to have it some time during your proceedings before you can arrive at an allocation of all the waters in perpetuity and forever and ever.

Now, I just have this thought. I may be all wrong, but what thinking I have done on this matter led me to believe that the most that can be accomplished by this Commission within the next three months or the next six months or the next year is to divide a quantity of the water among the states. We will say we will divide X acre feet of the 7,500,000 acre feet among the states upon some basis. Now, I am not prepared to suggest what that basis would be, but I do believe that this Commission can determine what would be a fair quantity of water to take out of the whole, and then find some basis on which to allocate a portion of that to each state, so that certain projects can have water available and you can begin your development work.

It seems to me that that is about the only thing that this Commission can do, unless you wait until you get the information that has been suggested by Mr. Bashore, and additional information that the Bureau is now engaged in getting together. Of course, I appreciate the fact that you must take into consideration perhaps present uses and potential uses and all of those things. But I do believe that you must begin working on the theory that you are going to divide a certain quantity of water and give each state a portion of the waters of the Upper Basin of the Colorado, so that certain projects can be picked out and we will know that those projects will have some water, and then divide the balance in years to come.

THE CHAIRMAN: Thank you, Judge Wilson.

MR. GILES: Mr. Wilson, will you submit to a question?

MR. WILSON: Yes.

MR. GILES: I am thinking of the mechanics of partial allocation.

What is your notion about the legalistic mechanics of a thing of that sort? Can you take a compact of this sort by steps?

MR. WILSON: I think this Compact Commission could enter into an agreement that you are dividing a certain quantity of water out of the total 7,500,000 acre feet: Utah so much, New Mexico so much, Wyoming so much, Arizona and Colorado so much. That's a temporary thing, but that would be firm--each state would have that quantity of water as it is apportioned by it in perpetuity, but the balance remains there to be allocated later by agreement among the states on some basis that future investigation, future facts, will justify.

COM. STONE: Do you think we should determine questions of that kind until we have got some of this basic information? That is a question of final decision, whether we make an apportionment of all of the 7,500,000, or a partial one. And it seems to me that we can't disregard the double phase of this work. Perhaps the basic, or at least one of the basic things for this Commission to do is to determine our obligations at Lee Ferry. We are not concerned here solely with the question of dividing the water. These states have assumed an obligation in the Colorado River Compact to deliver a specified amount at Lee Ferry, and that is going to be a very important phase of these negotiations.

When we get into that subject, as well as the subject of apportioning the water, the engineering information on water and an agreement on the available water supplies is so important, and that is a big task in itself. It seems to me that we could well start out on that one phase of the study of the basic information needed, in order that we may proceed here. And I surmise that we may agree almost entirely on some of those things. I think we should attempt that, first.

As to whether any of these other items which you suggest should come in, that can be determined later. We have got a big task immediately ahead of us on that one thing, first. And I should like to see us set up a procedure to get into the question of collecting, as you put it, certain information. Only I would say at this point that that information and that study should be confined to the thing we are dealing with, namely water.

THE CHAIRMAN: Are there any further remarks?

COM. CARSON: Mr. Chairman, on that list as you read there--which I haven't got completely set down here--it seems to me that it does not cover anything except water.

COM. STONE: What I am referring to is this question of economics, ratio of cost to benefits, and the cost of each addition to a project, and estimated annual costs, annual benefits--those are economic things which it seems to me that we need not necessarily determine. But if we do decide to go into those things, we shouldn't do it until we deal with the water question.

I should think it would be dangerous for a state to determine its rights to water on economics today. Economics will come into the project later on.

COM. CARSON: I didn't understand that it was suggested that any division would be based on those economic studies.

COM. STONE: Those were just some of the items suggested by Mr. Bashore.

COM. CARSON: I think perhaps you are overemphasizing the effect of

the economics study or any information concerning it upon the ultimate apportionment of water among the states.

COM. STONE: My point is, I don't see the need of going into that now, at least.

COM. CARSON: When you assemble the information on the tributary flows and the uses and the part reaching the state line and additional areas in that particular sub-basin that might utilize water, you would have all of the economic phases that the Chairman has suggested available as you make this first study, so that to separate the two would require a double going over of the same reports and projects and information.

COM. STONE: My point is, Charlie, how will the study of projects costs and the estimate of the ratio between costs and benefits--how is that going to aid us in any way whatsoever in determining the amount of water that is available to meet deliveries at Lee Ferry or to apportion it among the states?

COM. CARSON: I don't think it will be any controlling factor. It would be compiled as a part of the same analyses of information available.

I think we in Arizona can pretty largely comply with the Chairman's suggestion in a relatively short period of time. We are willing to go ahead and do it as far as we can. I think it would be a valuable thing if as full information as possible could be obtained here within the reports that are now available, or such studies as might be made before we meet again, although it might not be completed at that time.

COM. STONE: I would hate to undertake immediately all that question of economics. I know in our state that is a big, long study in itself. And I think we ought to put first things first. I think we ought to study water. We won't have any economics until we know how much water there is for these projects. And that is what we are dealing with.

There is a lot of disagreement on the economics. I imagine there will be disagreements among the states on the Bureau's report on that question. I don't like to see us get into that broad phase unless it is necessary.

COM. BISHOP: Mr. Chairman, they considered all those in negotiating the Colorado River Compact, and there was argument after argument made by the representatives of the Lower Basin that their land was worth from two to five times as much as ours, and they were entitled to more water. But the Upper Basin States would not agree with that, and if that had been considered as of major importance we probably wouldn't have gotten seven and a half million acre feet, or anywhere near it.

COM. STONE: I agree with you, Mr. Bishop, that I could never subscribe to the point that water is more valuable downstream and therefore downstream should have more water. I don't think it is an essential question to be determined in dividing water. There are other factors of equitable apportionment which are controlling, and not that.

COM. BISHOP: But they had all of those before them when they negotiated the Colorado River Compact. They had all the studies there.

COM. STONE: That is right. There is no reason why--

COM. BISHOP: They threw them out the window. And I say that would

be wasting our time, to go into those studies, because we won't use them after we get them.

COM. STONE: They weren't used in the Colorado River Compact.

COM. BISHOP: They were used as an argument.

COM. STONE: I know, but they weren't used in determining the apportionment.

COM. BISHOP: No, they weren't.

COM. STONE: Who knows what the economics is going to be fifty years from now, when some state wants to use its water?

THE CHAIRMAN: Judge Stone, it was not my suggestion that you present the economics for fifty years--the present economics.

COM. STONE: That is what I am worried about, Mr. Chairman.

THE CHAIRMAN: Well, it can be taken care of, I should think by some statement, qualifying statement as to the economics at the present.

COM. McCLURE: Off the record.

(Discussion off the record.)

THE CHAIRMAN: Judge, I believe the record will show that the suggestion of the Chairman was that as much of this information as is readily available be gathered for the next meeting.

COM. WATSON: Mr. Chairman, that presupposes that the meeting will be a long time from the present.

THE CHAIRMAN: No, sir, I don't presume that at all. I would think that within thirty days, if the Commission is ever going to accomplish anything, we should have another meeting, and see what you can get together in the meantime.

COM. WATSON: May I add, in the case of Utah there are certain long-time records on the Colorado River with which we are all familiar, but there is other data, such as the amount of water contributed by Utah, of which we are not cognizant--that is, we can't accurately state what Utah contributes. We are not familiar with the evaporation of the main stem of the river in Utah through which Wyoming and Colorado's water, as well as Utah's water, flows. It will take some time for us to evaluate these amounts.

Now, it looks to me as though in this compact we are trying to get at something feasible so that we can start some projects. If we have a project in Utah that is desirable, and we can qualify within the limits of Utah's theoretic share and be well within those limits, we want to start that project. But if we wait until we get all this data, we never will start this project, or any other project.

THE CHAIRMAN: Well, I might make this observation, that the ratification of this proposed compact by the state legislatures and by the Federal Congress, does not necessarily mean starting the project in any state. That's a step. It is a very important step, but after that you will have to secure authorization for the Colorado River scheme or a part of it. And that isn't all. After that you will have to secure appropriations, and in securing those

appropriations certainly the Bureau of the Budget and the Congressional committees will require economic justifications.

I may be thinking in too technical a manner. But if you will pardon me if I refer to my experience when I was Commissioner of Reclamation, I know what you are up against on these things. And I feel that the suggestions I have made will provide useful information.

I recognize that it's a big job, and I hope you will be free to just tear it all to pieces and suggest something better--something shorter and easier, or take it in progressive steps, if you like. But we certainly got to get this work under way.

When I accepted the appointment as the Federal Representative, I did it with the sole purpose of being able to accomplish something. Pardon me if I refer again to my contribution in the authorization of the Missouri. I consider that one of the greatest accomplishments in my life. And I figure there is just one more river basin development that is in my system, and that's the Colorado. I am very anxious to get something tangible that we can get our teeth into and go forward.

(Discussion off the record.)

THE CHAIRMAN: Suppose we recess for ten minutes, and you be prepared to introduce a resolution. Is that satisfactory?

COM. BISHOP: Okay.

THE CHAIRMAN: All right.

(2:50 p.m. Recess.)

(3:18 p.m. Meeting resumed.)

THE CHAIRMAN: Judge Stone.

COM. STONE: I move that for the purpose of providing basic factual information each state undertake as a first step to assemble for possible later agreement the following data, to be followed by further essential studies to the making of the compact:

1. Assemble the recorded information on streamflows of the main river and tributaries at key stations at Lee Ferry and upstream.
2. Segregate these streamflows at state boundaries.
3. Estimate channel losses from state boundaries to Lee Ferry.
4. Estimate the annual consumption of water in each state by tributaries for the study period.
5. Adjust state contributions for quantities of water consumed in each state.
6. Adjust state line outflows for study period to contributions at Lee Ferry under virgin or long-time average conditions.

Now, I wish to explain that I fully understand in making that motion that that does not cover all of the essential factual information which we will probably need to make a compact. But for the purpose of making

progress it seems that this information is essential and that it is information upon which we can probably largely agree and will be basic information which can more readily be followed by other factual matters which we may wish to bring into consideration.

COM. BISHOP: I will second the motion.

COM. WATSON: Mr. Chairman, may I ask Mr. Wallace to make a statement, Mr. William R. Wallace?

THE CHAIRMAN: If it is pertinent to the resolution, yes.

COM. WATSON: Yes.

MR. WALLACE: Mr. Chairman, this is a very important resolution. Personally, I agree with the statement made by you, that we should get all factual data together just as quickly as we can. We of Utah have had no opportunity of studying this resolution. The Governor is appointing a group of five as counselors to the State Engineer, and I very earnestly hope this resolution will not pass, but that we may have an opportunity to take some time to go over the entire matter with our counsel and then decide upon it.

But to take it at this moment, after the statement made by Judge Stone indicating clearly some of the things that he regards as of extreme importance in making the decision, I would certainly very much like to have an opportunity of a thorough study of this proposition before it is passed.

COM. STONE: I want to say that I have no thought in making this suggestion as to what the terms of a compact may be. But I offer it as indicating the information which is needed to make any compact. I don't know what it will result in, or the agreement. But I don't see how we can make any compact without this factual information.

COM. WATSON: Mr. Chairman, I offer an amendment to the resolution, that we consider this information as set out by Judge Stone as basic and important for the initial work to be done by this Commission, but that we adopt the Chairman's plan that he set out in the beginning as the ultimate objective of this Commission's work.

THE CHAIRMAN: Mr. Watson--

COM. BISHOP: I will second that if you add, "in so far as it is practicable to do so."

COM. WATSON: I will agree that that suggestion be added, "in so far as it is practicable to do so."

THE CHAIRMAN: Mr. Watson, as I understand, you offer that as an amendment to the resolution which has been introduced by Judge Stone and seconded by Mr. Bishop?

COM. STONE: I don't understand the purport of his motion. He said we adopted--may we hear that motion again?

COM. WATSON: The sense of my amendment was this: that we adopt your resolution setting out data that is basic and necessary, but that we accept the Chairman's plan that he set out, as our ultimate objective. In other words, that we adopt your plan as the initial work to be done, but that we adopt the plan of the chairman as the comprehensive objective.

COM. STONE: Mr. Watson, that is my thought, and if you remember, I put in there those very words, "as a first step." I don't intend it as being complete, nor do I intend that it forecloses the ultimate adoption possibly of the Chairman's suggestion. But that is merely a first step for essential information and--

COM. WATSON: My thought is this: It is better to adopt a general over-all plan and then eliminate as we see it is necessary, than to adopt a narrower, smaller plan and add to it as we progress. In other words, it is easier to eliminate than it is to add. Therefore I suggested the amendment that we in this resolution accept the Chairman's over-all plan as the ultimate objective of this Commission.

COM. BISHOP: In so far as it is practicable to do so.

COM. WATSON: In so far as it is practicable to do so.

COM. BISHOP: I don't see that that weakens your resolution any, Judge.

COM. STONE: I have so much doubt about that economic stuff, I don't like to see us determine questions of economics. I think I might be persuaded to let certain phases of economics come into it later, but at this moment to adopt your motion is tantamount to admitting such information is essential to the making of a compact. I can't quite see that we should do that. In my judgment it is not essential.

COM. WATSON: If it is not essential we can eliminate it easier than we can add to it. If we have already accepted it as a general plan and discover later on that we should eliminate it, we can cut out that which is not applicable.

COM. STONE: Your idea when you say "as far as practicable" is, so far as that full information may seem pertinent to making a compact? That is your idea?

COM. WATSON: That is right.

COM. STONE: "So far as practicable"--I think that ought to be cleared up to the wording "so far as pertinent to the making of the compact." I can't see where the economic data is pertinent to the making of a compact.

COM. WATSON: If it should develop in the course of our investigation that it is, we would still have it as part of the plan.

THE CHAIRMAN: Well, the Chair will have to admit he doesn't know how to put this matter before the Commission. If it can be stated as an amendment to the motion concisely, we will then endeavor to see if the amendment is accepted.

COM. WATSON: Could it be offered as a substitute motion?

THE CHAIRMAN: We are considering the motion of Judge Stone, and I think you have offered an amendment.

COM. STONE: It seems to me there is not much difference between Mr. Watson and me on the thing, only just the proposition that if we adopt his amendment to the motion we are recognizing at the outset the propriety of information which is not a sound basis in compact-making.

I can't see that economic considerations, the ratio of costs to benefits, and the costs of projects, are going to aid us. In the first place, how are we going to estimate the cost of projects?

We are investigating in our state, the Bureau of Reclamation is investigating projects, reports on which may be made some years in the future. And those costs are high now. Some time in the future they may be much less, and they may be higher. What has that got to do with the state's share of the water?

Now, this may be true, it may work against some states. Supposing that we have a project in Colorado where we have a fortunate situation, where the costs are very low as compared to the benefits, and that you have a project where your costs are very high. That shouldn't foreclose your state from your equitable share of the water. And I can't for the life of me see that it is good policy at this time for us to bring into this situation those economic phases.

COM. WATSON: Judge Stone--

COM. STONE: Now, if it should be necessary on particular projects as we go along, in considering them in this compact, we could well bring them in. But as a broad principle and a broad proposition, it is not for the best interests of any of these states.

COM. WATSON: Wouldn't it be a wise suggestion to put the motion this way, that we accept the Chairman's plan, with the reservation that your plan, that is, the data that you presented, be the initial work to be done, and that other work be taken on as is feasible and practicable?

COM. STONE: Couldn't we put it this way, Mr. Watson--which would be the same thing--that the Chairman's plan has been suggested, and that as an initial step or a first step for this study we adopt this suggestion, and that other portions of the Chairman's plan may be taken up as it becomes necessary or essential, if it appears essential and pertinent to the making of a compact?

THE CHAIRMAN: Gentlemen, I certainly am not wedded to any particular plan. I don't know whether the suggestion I have made is comprehensive enough for a program for the Commission. You may want to modify it from time to time.

I consider any party on any plan you decide to undertake at this time, you are not irrevocably bound all the way through. The economics was suggested for the reason that I felt that it would be of aid to the states in disposing of questions within their own boundaries. Certainly it is not contemplated under the Santa Fe Compact or the Boulder Canyon Adjustment Act that economics would play any part in the distribution of this water, but we may need it. If they are not needed, all right. It doesn't make any difference to the Chairman whether you take it or not. I threw it out to get you fellows at work, because you can't conduct these meetings on jawbone. Let's have some sort of resolution here we can agree on, and go ahead.

COM. STONE: Mr. Chairman, it is your conception, and I think you are entirely right about it, as we go along we may find other factual information which is very essential.

THE CHAIRMAN: Absolutely, Judge Stone.

COM. STONE: That's why we can't adopt any plan as to all the information, but we certainly can pick out the information we know at this time is essential. I want to frankly say to you that I have no thought in mind as

to how this information suggested by me will influence the making of the compact. That is a matter we have got to agree on, but very apparently it is essential, because it deals with that thing we are talking about, namely, the water supplies, and the use, the future use, of those water supplies.

COM. WATSON: Since we are laying the foundation for a broad plan and for a large amount of future work, why shouldn't we accept the plan as set out by the Chairman, with the economic features attached, but specialize on your suggestion and make it the initial problem, and then if we wish, go ahead with the other data when necessary, and if we find that it is impractical, eliminate it?

In other words, it is as broad as it is long. We are doing the same thing. Accept the plan and make your work initial.

COM. STONE: The only thing, we put a stamp of approval on that economic phase by adopting it. I don't feel like approving that, because I can't see how it will aid us in dividing the water. It could work against your state; it could work against any of our states.

COM. BISHOP: I don't think we are so far apart on it. The Chairman has suggested it was his idea that we use this in our own states. Now, in Wyoming we plan to use the information in the report to a large extent in determining as between our projects and all, and we don't propose--and going along with Mr. Watson on his amendment--I don't propose to present to this Commission an economic study for Wyoming. I think the explanation of the Chairman there ought to make it clear that that was all that was intended on the economic studies.

COM. STONE: I think all of us are going to make economic studies for the benefit of our own internal development. But so far as interstate matters are concerned, it seems to me they are not essential.

THE CHAIRMAN: I agree with you, Judge, they are not essential as far as interstate matters are concerned.

COM. STONE: And we have got enough to do in this Commission to get the essential things rather than to undertake the economic situations in each state, which each state must decide for itself after each state knows how much water it is entitled to under the compact.

THE CHAIRMAN: I am firmly convinced that if I was a State Engineer or a Compact Commissioner I would want this economic data. The reason why I included it in this hurriedly made group of suggestions was because I felt you would have to have it when you go to dealing with your own people in your own individual states. It is not pertinent to the deliberations of this Commission.

COM. STONE: If it is not pertinent, we have got so much to do, why should we do it? And then undertake that later, if we all agree later on it as helpful to the states.

THE CHAIRMAN: Well, we have had considerable discussion now. And, Mr. Watson, if you have an amendment to the resolution that was introduced by Judge Stone, will you state it, if you are offering an amendment?

COM. WATSON: It can be amended, or I can make a substitute motion.

THE CHAIRMAN: We would have to dispose of the motion before the Commission first.

MR. GILES: May I ask Judge Stone a question, Mr. Chairman?

THE CHAIRMAN: Yes, sir.

MR. GILES: Judge, it isn't your idea in presenting the basic features of a study here that if any state wants to offer some other factual data that the state feels is essential, they may not do so, even within the range of your resolution?

COM. STONE: Why, certainly.

MR. GILES: It is not all-inclusive, in other words?

COM. STONE: This is just a first step, and it doesn't foreclose any state offering anything it wishes here. That is something which is within the discretion of each Commissioner. And, after all, it is just a first step, to get started.

MR. GILES: And if, at the next meeting, a state should come here with a certain presentation of facts, it wouldn't be your position that was not within the purview of the resolution, hence it can't be considered?

COM. STONE: No. Each state would certainly have the privilege and right to offer for the consideration of the Commission any information or data which that state saw fit to offer.

MR. GILES: That is all I wanted.

COM. McCLURE: Mr. Chairman, I am not sure I understand who is to make these studies that the Judge has submitted in his motion.

COM. STONE: I think that is a pertinent question. I tried to word it with this in mind, Tom, I assumed that each state would want to make some studies of their own on these subjects.

Then I assume if it is brought in here and offered that either the members of the Commission or someone designated by the Commissioners, which would undoubtedly be an engineer since it deals with engineering, would confer and attempt to agree upon this factual information.

Now, what impelled that thought was just the experience which Colorado and Kansas had in the making of the Arkansas Valley Compact. There were one or two meetings where there was a good deal of acrimonious discussion about the division of water. It was soon clear that certain water data information was necessary. And so they picked out what was clearly essential at that point, and the engineers in each state began to work on it.

That developed later into these engineers getting together to try to agree upon it, and it appears they are going to agree on most of it. And I apprehend that this isn't much of a controversial matter; it is just to determine the factual information which clearly is essential. I apprehend we will probably agree on most of it, perhaps on all of it.

COM. McCLURE: You don't want five of us to come in here with all the streamflow records on the main stream and the tributaries? That would be identical.

COM. STONE: That might be, and I have no objection to staking out someone from each state to get together and assemble that information.

COM. MCCLURE: That is the thing I was wondering. There is no need for five states to come here with the United States Geological stream gauging records of key stations on your main stem and your tributaries. Then, as I understood, the Chairman's plan was that he wanted the states to compile their individual information within their boundaries for each state. Is that right?

THE CHAIRMAN: That is the way it was suggested, yes.

COM. STONE: I think most of this information can be assembled by a small group of engineers. You will find, though, that there are certain questions here which I think will require some agreement.

Now, that first one is a matter which possibly you can agree upon. But, as has been pointed out here by Mr. Patterson, some figures have been used by the Bureau, as I understand it, and there are different figures available from the U. S. G. S. Now, some of your engineers could easily get together and get on that No. 1 problem.

COM. BISHOP: I think Mr. Riter here could give us the answer to most of that data right from the Bureau's report. In fact, most of it I have assembled. But I am sure Mr. Riter could give it to us right off the bat.

As far as I am concerned, I am willing to agree to the figures the Bureau has assembled. For instance, Mr. Riter--if it is proper at this time--may I ask you what the virgin flow over a long-time period is at Lee Ferry?

MR. RITER: We made an estimate of it and it is set up in the appendix of this report. That is our estimate prior to 1921.

COM. BISHOP: Could you give us that for the purpose of our record and see if we can agree on that?

THE CHAIRMAN: Pardon me just a moment. Let's keep on the beam here. You jump the fence and get clear off the reservation. I don't believe that we want to dispose of that question now.

If it is available, fine and dandy. It will be very easy. But let's determine what we are going to need in this proceeding.

COM. STONE: My thought was, some of these things are easily available.

THE CHAIRMAN: Who knows? Who is prepared to say they are all available or not available at this time? That is what we want to find out. If we don't have any program, we are going around in circles and fight windmills until everybody gets disgusted.

COM. STONE: I will say this, I put these down at the suggestion of my engineering advisers. In no--

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. STONE: My engineering advisers tell me this is essential information; as to whether it is easily available or not is not the question. If it is easily available, then there is a way of getting it.

I asked Mr. Patterson--he is largely responsible with some others

for that information--and Mr. McClure asked the question: Take No. 1, for instance, why should each state prepare it when it is just a question of consulting the available records?

Now, perhaps you had better answer that.

MR. PATTERSON: My suggestion was not that each state prepare it separately. I asked you if it was your intention to try to work together to assemble, to understand and agree upon this information. My only suggestion is, it is one basic group of information concerning which you men all should have an understanding and should agree that this is information you are going to start work on.

If you don't do that, I am going to suggest that you are going to have people come up and say, from some other source of information, that you are making mistakes, that here is a different record, and your answer should be, "We considered all of the available information and decided that these figures that we have now agreed to were the best evidence we had to start with."

That is the only purpose, and it might be that right quick you could get that all straightened around as to why there are confusing published records on this one question.

COM. STONE: My idea, Mr. Chairman, was this: that one engineer from each of these states probably in a very short time could sit down and agree on this basic information which could be brought before this Commission, and to the extent we can't agree, then the Commission will have to decide.

COM. McCLURE: In other words, you plan to set a program and create an engineering advisory committee?

COM. STONE: An advisory committee such as you fellows did on the Rio Grande Compact. You remember that was very helpful. The engineers got together, worked together, and agreed upon basic information. We are doing it in the Arkansas River Compact.

Now, each state doesn't have to undertake this individually unless the state wishes to do so. But we have competent men from each of these states, if they were to sit down together with you, Mr. Chairman, or some engineer you designate, I imagine that most of this information they would get together on rather quickly, and we would have something to start with.

COM. McCLURE: I have been trying to get them together for two years on the Rio Grande and haven't got them together yet.

THE CHAIRMAN: Mr. McClure, from the progress we are making here on trying to arrive at something in the way of collecting data, it appears it will take two years to get together on what we are going to study.

COM. McCLURE: A point of order: I believe there is a motion before the Commission and an amendment to that motion. I think the second of the original motion has accepted the amendment. And if so, I think we are ready to vote on the motion as amended, are we not?

THE CHAIRMAN: I am not quite clear what the amendment to the motion is. Now, Mr. Watson, if you will state what the amendment to the motion is, we will vote on the amendment.

COM. WATSON: The amendment simply is--

THE CHAIRMAN: Please state the amendment the way you want it.

COM. WATSON: I amend Judge Stone's motion as follows: that we accept the data he suggested as basic and initial and that we also accept the Chairman's plan of considering available economic data as far as it is feasible.

THE CHAIRMAN: Is there a second to the amendment?

COM. BISHOP: I second the motion.

COM. McCLURE: Off the record.

(Discussion off the record.)

THE CHAIRMAN: Perhaps we can clarify the matter in order to make just a mite of progress by the Chair withdrawing his suggestions as to the collection of economic data at this time. I believe that is the privilege of the Chair, to withdraw. We have had considerable discussion and I believe in the interest of harmony and progress I will withdraw the proposals as to the collection of economic data.

COM. BISHOP: Mr. Chairman, I make a motion that we accept his withdrawal of that information.

THE CHAIRMAN: Let's wipe the slate clean and start over again. Off the record.

(Discussion off the record during which pending motion and amendment were stricken from the record.)

COM. McCLURE: I move that this Commission set up an Engineering Advisory Committee consisting of one engineer from each state and the Federal Representative's engineer; that these engineers meet between now and the next meeting of this Commission with an agreed program to present to the Commission for adoption, an engineering study of data on the record.

COM. BISHOP: Mr. Chairman, I will second that motion if you will include Mr. Riter or some other expert from the Bureau of Reclamation to sit in with this engineering committee to assist in--

THE CHAIRMAN: I believe that was covered in Mr. McClure's motion, Mr. Bishop.

COM. McCLURE: That is right.

COM. BISHOP: Oh, he stated the Chairman would name a Federal man.

MR. GILES: Mr. Chairman, in order to make it entirely clear, your engineering committee are merely to present a working plan, aren't they?

COM. McCLURE: A working plan. A program to be presented to the Commission for adoption.

COM. STONE: That is, a working engineering program.

MR. GILES: That is right.

COM. McCLURE: Of the necessary data and information that they feel is necessary for this Commission to arrive at an allocation of the waters.

COM. STONE: I would second that motion and I believe it is a good suggestion, because engineers ought to be able to agree upon what is essential information and how much of it can be gotten together and what progress we can make on it.

THE CHAIRMAN: Any discussion of the motion? (The question was called for. Thereupon a vote was taken and the motion of Com. McClure carried unanimously.)

THE CHAIRMAN: Perhaps then it is in order to discuss the time and place of the next meeting.

COM. STONE: Mr. Chairman, before you do that should we adopt a rule that unanimous action is necessary in all matters which come before this Commission? We have to unanimously agree in the end.

THE CHAIRMAN: Judge Stone, the Chair is unable to say just what you should adopt as a rule in a matter of that kind. I think that should be very carefully considered.

COM. McCLURE: We will have trouble.

COM. STONE: If we have a rule like that we will tend to get together rather than somebody being bound by something that is imposed by the majority. We have got to unanimously agree before we have the compact. That was my only thought.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. CARSON: Mr. Chairman, on matters of mere procedure don't you think that would be rather dangerous?

COM. STONE: I am not urging it. I am just raising the question.

COM. CARSON: Off the record.

(Discussion off the record.)

COM. BISHOP: Mr. Chairman, I think Judge Stone is absolutely right, that we should be unanimous before we pass on any question that affects the allocation of waters. I think it is desirable. But, on the other hand, it seems that it would hardly be fair to have some one member hold a proposition up that might be beneficial to everyone else and even that one member in the eyes of the others.

COM. STONE: I think that is entirely true, Mr. Bishop. I think it might be ill-advised to adopt such a rule at this time.

COM. BISHOP: I believe it would be better to go along understanding we are going to make it unanimous if possible and not have a rule.

COM. STONE: On the basis of this motion should we, in order to get these engineers busy, announce who the members of our Engineering Advisory Committee will be?

THE CHAIRMAN: I think that is in order, Judge Stone.

COM. McCLURE: Mr. Chairman, as far as I know now, John H. Bliss

will be the engineering adviser for New Mexico.

THE CHAIRMAN: Wyoming?

COM. BISHOP: Professor H. T. Person of the University of Wyoming, Laramie.

THE CHAIRMAN: Arizona?

COM. CARSON: It will be R. Gail Baker.

THE CHAIRMAN: Colorado?

COM. STONE: C. L. Patterson.

THE CHAIRMAN: The engineer adviser of the Federal Representative will be J. R. Riter. Utah?

COM. WATSON: Mr. Fred Cottrell, Chief Deputy of the State Engineer.

COM. CARSON: Mr. Chairman, could I ask Mr. Riter, is that information contained in Judge Stone's resolution readily available?

MR. RITER: From the standpoint of Arizona, I don't think it is. I don't think there is anything for that little piece of Arizona there. There seems to be a complete lack of record there.

COM. CARSON: In other states?

MR. RITER: Key stations, yes. They have been operated for a number of years by the Geological Survey.

COM. CARSON: Off the record.

(Discussion off the record.)

THE CHAIRMAN: I am not clear as to how this Engineering Advisory Committee is to function. Is it at the wish of the Commission, they arrange their own time of conference, or that they convene at a certain date in the future?

COM. STONE: Don't you think it would be better to set our time of meeting with the understanding that this committee should arrange among themselves to meet sufficient time ahead of our meeting to have this report ready which is requested of them?

COM. BISHOP: Don't you think we could have a two-day meeting and have the engineers get their data presented the next day, and save so many meetings?

COM. STONE: I don't think so. I think if we leave it up to these engineers and tell them the date we are going to meet, they will have it ready.

THE CHAIRMAN: Perhaps you should consider the time and place of the next meeting at this juncture.

COM. McCLURE: Mr. Chairman, I would like to extend an invitation to come to Santa Fe. I would suggest the best time would probably be the week of the 15th, sometime during that week.

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THE CHAIRMAN: 15th of what?

COM. McCLURE: Of September.

THE CHAIRMAN: Will you put that as a motion, Mr. McClure, so we can take some action?

COM. McCLURE: I would like to confer with Governor Dempsey on the exact date of that week. He suggested that they come to Santa Fe in September or October. Off the record.

(Discussion off the record.)

THE CHAIRMAN: For the record will you make a motion as to the place of the next meeting?

COM. McCLURE: I move that the Commission meet in Santa Fe, New Mexico, on the 17th and 18th of September.

THE CHAIRMAN: Do I hear a second?

COM. STONE: Second the motion.

THE CHAIRMAN: It has been moved and seconded that the next meeting be held in Santa Fe, New Mexico, on the 17th and 18th of September. Any discussion? (No response. Thereupon a vote was taken and the motion of Com. McClure carried unanimously.)

COM. McCLURE: Off the record.

(Discussion off the record.)

THE CHAIRMAN: Now the matter of the meeting of the Engineering Advisory Committee--has that been disposed of, the time and the place of that meeting?

COM. STONE: Would it be well for you, Mr. Chairman, to instruct the Engineering Advisory Committee to meet before that time so that they may have this report available, leaving it up to them?

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. BISHOP: Mr. Chairman, I make a motion that they meet on the 30th and 31st of August at Cheyenne, Wyoming.

THE CHAIRMAN: You have heard the motion by Mr. Bishop. Is there a second?

COM. WATSON: Second.

THE CHAIRMAN: Moved and seconded that the Engineering Advisory Committee meet in Cheyenne--on what date?

COM. BISHOP: 30th and 31st.

THE CHAIRMAN: Any discussion on that? (Question called for. Thereupon a vote was taken and the motion of Com. Bishop carried unanimously.)

MR. GILES: Mr. Chairman, I have the matter of the record in mind. You have indicated you are going to require the services of a reporter.

(Discussion off the record and action deferred.)

THE CHAIRMAN: I suppose, Mr. McClure, that you will arrange the precise meeting place?

COM. McCLURE: Yes, sir.

THE CHAIRMAN: And that you will arrange for reporting the meeting?

COM. McCLURE: Yes.

THE CHAIRMAN: That's understood then.

COM. BISHOP: In Wyoming they will meet at my office.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

THE CHAIRMAN: Any further business?

COM. BISHOP: Mr. Chairman, I move we adjourn.

THE CHAIRMAN: Is there a second?

COM. McCLURE: Seconded.

THE CHAIRMAN: It has been moved and seconded that we adjourn. Any discussion? Ready for the question? (Question was called for. Thereupon a vote was taken and the motion of Com. Bishop carried unanimously.)

THE CHAIRMAN: The meeting stands adjourned to meet at Santa Fe, New Mexico, September 17, 1946.

(4:32 p.m., July 31, 1946, meeting adjourned to September 17, 1946.)

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

OFFICIAL RECORD OF MEETING NO. 2

September 17-18, 1946

La Fonda Hotel

Santa Fe, New Mexico

MEETING NO. 2
Santa Fe, New Mexico
Sept. 17-18, 1946

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APPEARANCES

Commissioners present:

H. W. Bashore, Chairman
Grover A. Giles, Secretary
Ed H. Watson, Commissioner for Utah
Thomas M. McClure, Commissioner for New Mexico
Clifford H. Stone, Commissioner for Colorado
L. C. Bishop, Commissioner for Wyoming
Charles A. Carson, Commissioner for Arizona

Other Appearances:

Federal Representatives

J. R. Riter, Engineer, Bureau of Reclamation, Denver, Colorado.
Adviser to Federal Representative.
H. P. Dugan, Engineer, Hydrology Division, Bureau of Reclamation,
Denver, Colorado.
H. N. Bennett, Jr., Engineer, Branch of Project Planning, Bureau
of Reclamation, Washington, D. C.
C. B. Jacobson, Engineer, Region IV, Bureau of Reclamation,
Salt Lake City, Utah.

From Wyoming

H. T. Person, Consulting Engineer of the Engineering Staff,
University of Wyoming.
Norman Barlow, Rancher and President, Green River Basin Develop-
ment Company; Assistant Compact Commissioner of Wyoming.
Joe Budd, Rancher and Assistant Interstate Streams Commissioner
of Wyoming.
E. B. Hitchcock, Agriculturalist and Treasurer of Green River Basin
Development Co.; Assistant Commissioner of Wyoming.
David P. Miller, Supt., Water Div. No. 4, Secretary of Green River
Basin Development Co., and Assistant Interstate Streams
Commissioner.
L. J. O'Marr, Attorney General from Wyoming and Legal Adviser on
Compact Commission of Wyoming.

From Utah

Fred W. Cottrell, Chief Deputy State Engineer.
William R. Wallace, Pres., Utah Water Users Ass'n.
Grover A. Giles, Attorney General of Utah.
Clarence Jarvis, Engineer, State Engineer's Office.
Thomas W. Jensen, Director, Utah Water Users Ass'n.
Mitchell Mellich, Attorney and Utah State Senator.
A. W. Watson, Special Assistant Atty. General, Adviser to State
Engineer's Office.
Gerald Irvine, Attorney, Salt Lake City, Utah; Counsel for Utah
Power & Light Company.
E. W. Clyde, Special Assistant Atty. General, Adviser to State
Engineer's Office.

From New Mexico

Fred E. Wilson, Special Assistant Attorney General and Legal
Adviser to New Mexico Commission.

John H. Bliss, Engineer, New Mexico Interstate Streams Commission.
 I. J. Coury, Member Interstate Streams Commission.
 J. E. Payne, Member Interstate Streams Commission.
 Ed H. Foster, Pres., San Juan County Reclamation Ass'n.
 George F. Bruington, Attorney, Special Master, San Juan River
 Adjudication Case.

From Arizona

R. Gail Baker, Arizona State Reclamation Engineer, Phoenix,
 Arizona.

From Colorado

C. L. Patterson, Chief Engineer, Colorado Water Conservation
 Board.
 R. J. Tipton, Consulting Engineer, Colorado Water Conservation
 Board.
 Jean S. Breitenstein, Attorney and Legal Adviser to Colorado
 Commissioner.
 John Erickson, Sr. Engineer, Colorado Water Conservation
 Board.
 Ralph L. Carr, Attorney, Gunnison Water Shed Ass'n.
 Dan B. Hunter, Chairman, Southwestern Colorado Water Conserva-
 tion District.
 Dwight Sexton, Sec'y., Southwestern Colorado Water Conservation
 District.
 D. W. Hott, Member, Southwestern Colorado Water Conservation
 District.
 Glenn Saunders, Attorney, Denver Water Board.
 Harry Potts, Engineer, Denver Water Board.
 A. W. McHendrie, Attorney for Arkansas Valley Ditch Association.
 Charles Beise, Attorney, Water Development Association of South-
 eastern Colorado.
 Gail L. Ireland, Lawyer, Member of Arkansas River Compact Com-
 mission.

THE CHAIRMAN: As our Secretary is present and our Reporter, Mr. Romero, and all the Commissioners are seated, and it is now 10:15 A. M., we will now go into executive session unless the Commissioners decide this meeting to be an open meeting. By resolution passed at Salt Lake City it was decided that our sessions would be executive unless the Commissioners take action to decide otherwise. Your Chairman has prepared a program for this meeting. One of the first items on the program is submission by the Commissioners of the names of your advisers present, giving their profession and official position in the State, if any, and the water organization or group whom they represent. In order to save time on that, I suggest that each Commissioner supply the names of those present from his State. The Chair calls on the Commissioner for Arizona.

(Each Commissioner submits a list of appearances to reporter who has listed such above.)

COM. STONE: Frank C. Merriell, Engineer-Secretary, Colorado River Conservation District is unable to be here today but will attend future meetings. This appears to be a long list for Colorado but we have numerous interests in Colorado which will be affected by anything done on the Colorado River. It is our policy to have all these interests represented by consultants to the Commissioner for the State of Colorado.

COM. WATSON: Mr. Roskelley, who is temporarily in the U. S. Army will probably be here. He is an Assistant in the State Engineer's Office.

THE CHAIRMAN: You may list those that will be here tomorrow or you may wait until they come in. I have no intention of being arbitrary in the matter.

The Chair would like, at this point, to have a statement from the Commissioners as to the time of the next meeting of the legislatures, the length of session and whether there is a recess period; the rules for introduction of bills. It is possible that some of you are not prepared to do that. However, I would like to have it at this time, if possible. The Chair therefore calls on the Commissioner for Colorado.

COM. STONE: Mr. Chairman, the next general assembly convenes in the State of Colorado on the 1st Wednesday in January, 1947. The length of session is not controlled or limited by law. Sometimes the session lasts for three months and I know of one instance in 1937 when it ran five months. The average length, I could say, is three months. Under the Constitution of the State of Colorado, all bills except general appropriation bills must be introduced during the first fifteen days of the session. It has been the common practice to introduce bills by title and add the body of the bill later. The Supreme Court has never passed on the validity of such procedure, but in the minds of many lawyers, there is considerable doubt whether it would uphold such practice if a question were raised. It seems advisable in important matters of this kind that the bill be introduced within the fifteen day period, and that the body of the bill accompany the title. Therefore, I would say that in order for the legislature of the State of Colorado to act upon ratification of any compact negotiated by this Commission at its next session in 1947, the compact should be available to be incorporated in a bill for ratification not later than the 22nd day of January, 1947.

COM. CARSON: The legislature of the State of Arizona meets in regular session in January and it lasts for sixty days for which they get paid. After that, they don't.

THE CHAIRMAN: Is that a continuous session or is there an intermission?

COM. CARSON: No, it is continuous.

COM. McCURE: In New Mexico, the regular session of the legislature convenes on the second Tuesday in January, 1947, for sixty days consisting of a split session of two thirty day periods. All bills must be introduced during the first thirty day period unless accompanied by a message from the Governor. There is a thirty day recess for consideration of all bills, after which recess they come up for passage or rejection during the last thirty days of the session.

COM. WATSON: The legislature of the State of Utah meets the second Monday in January, 1947, for sixty days continuous session. There is no recess. The rule is not to introduce any bill after the fortieth day except by unanimous consent.

THE CHAIRMAN: The Commissioner for Wyoming.

COM. BISHOP: I will ask Mr. O'Marr, Attorney General, to answer for Wyoming.

MR. O'MARR: The Wyoming legislature meets on the second Monday in January, which is the 13th. Under the law, the session is limited to one session of forty days. By rule, the legislature generally fixes the time of twenty, sometimes thirty days to introduce bills. After that, they can only be introduced by unanimous consent. Sometimes they introduce a bill as suggested by Judge Stone, by just introducing the title with a skeleton form, but I agree with Judge Stone that that is not the proper way to handle it. The bill should be complete and then changed in the regular way. These forty legislative days do not include Sundays or holidays. There is not a split session either.

THE CHAIRMAN: The next item to be considered I believe is the desire on the part of the Commissioner from Arizona to further clarify Arizona's position in connection with these deliberations. Mr. Carson, do you wish to make a statement at this time?

COM. CARSON: Yes, sir, I will just hand a copy to each one of you. As I said, it is Arizona's position, as suggested previously, to be put in the record.

THE CHAIRMAN: Without objection, this statement will be incorporated in the record of this meeting. Don't you think Mr. Carson should read that in order that everybody can hear it?

COM. CARSON: Arizona has about sixty-six hundred square miles in the Upper Basin. Under the compact this is the basis upon which Arizona is entitled to share in the waters apportioned to the Upper Basin. However, it does not share in the obligation to deliver at Lee Ferry. We have had engineers go out to that part of the State. Most of it is on the Indian Reservation, but they report that it isn't possible to divert water on that portion of Arizona that is in the Upper Basin from either main streams of the Colorado River or San Juan River. Therefore, I have prepared this short statement:

"There is hereby apportioned to the State of Arizona for beneficial consumptive use in that part of Arizona which is in the Upper Basin, as defined in the Colorado River Compact, all of the waters precipitated thereto, and in addition thereto 1000 acre feet from the Paria River."

"The Paria River rises in Utah and flows through Arizona into the Colorado River just above Lee Ferry. There is very little use of water in

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that area; one dude ranch and there is possibility of other dude ranches. So 1000 acre feet from the Paria River would be ample. Arizona is also a Lower Basin State and very much interested in her rights as a Lower Basin State, more so than in her rights as an Upper Basin State.

"Arizona joins in these negotiations for the purpose of the allocation between the States of the Upper Basin of the use of water apportioned to the Upper Basin by the Colorado River Compact, and any Upper Basin Compact is without prejudice to any contention Arizona as a Lower Basin State may desire to make concerning the interpretation or construction of the Colorado River Compact, The Boulder Canyon Project Act, such Upper Basin Compact or any other agreement, or statute heretofore or hereafter made or enacted, or the proper definition of terms thereof, or the applicability thereof, and is without prejudice to Arizona's rights as such Lower Basin State to require delivery by each of the other States, parties to such Upper Basin Compact, jointly and severally, of the quantities of water they jointly are obligated to deliver at Lee Ferry under the terms of the Colorado River Compact."

That I think completely clarifies Arizona's rights and position.

The Paria River arises in Utah on the west side of the Colorado River. There is only about eighteen to twenty thousand acre feet annual discharge of the Paria River. In Arizona we have one dude ranch which has about one hundred acres under cultivation. There are possibilities of other dude ranches on that stream. That is about all we could ever use.

THE CHAIRMAN: Unless someone wishes to comment on that, we will now pass to the item of the special report of the engineers which was authorized at Salt Lake City, in the matter of preparing a program for the work of the Commission.

COM. WATSON: Mr. Chairman, is this statement that Mr. Carson has just read, part of the record at the present time?

THE CHAIRMAN: Yes, sir, it is part of the record. The Chair stated that unless there were objections, it would become so.

COM. WATSON: There is no acceptance by the Commission, it is just a part of the record.

THE CHAIRMAN: It is simply a part of the record. This group of engineers met at Cheyenne and in my opinion did a fine job of preparing a report for this Commission. You will observe that the report is in shape so that you may modify it or reduce it in detail. You may accept it as a whole or reject it as a whole, or accept it in part or modify it in part. I want to call to your attention the fact that the program outlined by the engineers involves considerable work and it will require time, and in the consideration of the report by the Commissioners, it would be well to bear in mind the situation in regard to the meeting of the legislatures. It is needless to say the compact might not be worked out in time for consideration of the legislatures as it will require time and call for cooperation by the Government. We might have to wait two years until the next regular session, and then it is your guess as to what the situation will be in Congress two years from now. You may be able to secure authorization for basin development or authorization for appropriations. So in your deliberations, pro and con, of the Engineering Committee Report, please keep the time element in mind.

The Chair calls on Mr. J. R. Riter to give the engineering report to the Commissioners.

Mr. Riter: I submit to the Chair and to the Secretary a signed copy of the Report. We have other copies for each of the Commissioners. I think the best way to proceed is to read the report. There are one or two minor editorial changes that have been suggested and should be made. As we come to these, I will call them to your attention and you can mark your copies accordingly.

(Report of Engineering Advisory Committee as corrected.)

Cheyenne, Wyoming
August 31, 1946

"REPORT OF ENGINEERING ADVISORY COMMITTEE
TO THE
UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Pursuant to the instructions received from the Commission, the Committee of Engineering Advisers listed below met at the State Engineer's Office in Cheyenne, Wyoming, August 30th and 31st, 1946 to discuss and recommend a program of engineering studies to assist the Compact Commission in negotiating a Compact among the Upper Colorado River Basin States.

Committee Members

J. R. Riter, Bureau of Reclamation, Denver, Colorado.
(Chairman)
R. Gail Baker, State Land Dept., Phoenix, Arizona.
C. L. Patterson, 212 State Office Bldg., Denver, Colo.
John H. Bliss, State Engineer's Office, Santa Fe, N. M.
F. W. Cottrell, State Engineer's Office, Salt Lake City, Utah.
H. T. Person, Engineering Bldg., University of Wyoming, Laramie, Wyoming.

Others Present

F. C. Merriell, Colorado River Water Conservation District,
Grand Junction, Colorado.
John R. Erickson, 212 State Office Bldg., Denver, Colo.
H. W. Bashore, Chairman and Federal Representative, Upper Colorado
River Basin Compact Commission, Mitchell, Nebraska.
H. P. Dugan, U. S. B. R., Denver, Colorado.
L. C. Bishop, State Engineer, Cheyenne, Wyoming.
Earl Lloyd, Deputy State Engineer, Cheyenne, Wyoming.
C. O. Roskelley, Salt Lake City, Utah.
C. S. Jarvis, Salt Lake City, Utah.
E. C. Lorentzen, Salt Lake City, Utah.
E. H. Watson, State Engineer, Salt Lake City, Utah.

After discussion of the problems involved, the Committee recommends:

1. Preparation base maps for use by the Commission in its deliberations. The Bureau of Reclamation will furnish two copies to each of the States of the maps on a scale of 1:1,000,000 which show the present and potential irrigation developments within the Upper Basin. Maps of the individual States are now available and are to be fitted together and mounted on cloth. The Colorado Water Conservation Board has under preparation a base map which can be adapted for use in showing the locations of stream gauging stations and watershed areas upstream from Lee Ferry. In the interim, copies of this map on its present scale of 1 inch equals 12 miles will be made available for use by the Engineering Advisers. In the near future Colorado will furnish Van Dykes from which

copies of the map can be prepared on the scale of 1:1,000,000.

2. Studies to determine the water supply available from each State.

This involves the following steps:

(a) Determination of historic stream flows at main stem gauging stations, and other stations located near the State lines and near the mouths of tributaries which enter the Colorado, Green and San Juan Rivers in Utah, Arizona and New Mexico. The Bureau of Reclamation compilation of discharge records will be supplemented to complete the records for the following list of gauging stations:

<u>Stream</u>	<u>Location</u>
Colorado River	at Lees Ferry, Arizona
San Juan River	near Bluff, Utah
San Juan River	at Farmington, New Mexico
San Juan River	at Shiprock, New Mexico
McElmo Creek	near Cortez, Colorado
Mancos River	near Towaoc, Colorado
La Plata River	at Colorado-New Mexico State Line
Animas River	near Cedar Hill, New Mexico
Animas River	at Durango, Colorado
Florida River	near Durango, Colorado
Animas River	at Farmington, New Mexico
Pine River	at Ignacio, Colorado
San Juan River	at Rosa, New Mexico
Navajo River	at Edith, Colorado
Paria River	at Lees Ferry, Arizona
Escalante River	below Escalante, Utah
Muddy River	near Hanksville, Utah
San Rafael River	at Hanksville, Utah
Price River	Highway Bridge
Price River	at Woodside, Utah
Duchesne River	at Heiner, Utah
Duchesne River	at Myton, Utah
Uinta River	at Randlett, Utah
Ashley Creek	at Fort Duchesne, Utah
Brush Creek	near Vernal, Utah
Henry's Fork	near Jensen, Utah
Green River	at Linwood, Utah
Burnt Fork	near Linwood, Utah
Blacks Fork	near Wyoming-Utah Line*
East Fork of Smith Fork	near Wyoming-Utah Line*
West Fork of Smith Fork	near Robertson, Wyoming*
Green River	near Robertson, Wyoming*
Green River	at Green River, Wyoming
Green River	at Green River, Utah
Little Snake River	near Dixon, Wyoming
Little Snake River	near Lily, Colorado
Savery Creek	near Savery, Wyoming
Battle Creek	near Slater, Colorado
Yampa River	near Maybell, Colorado
White River	near Watson, Utah
Colorado River	near Cisco, Utah
Dolores River	at Gateway, Colorado
Gunnison River	near Grand Junction, Colo.
Plateau Creek	near Cameo, Colorado
Colorado River	near Cameo, Colorado

* Record to be compiled by the State of Utah.

- (b) Extension of available discharge records, where necessary, by correlation with records at other stations. To secure a representative period, the records will be extended back in time as far as practicable. (If possible, back to 1914 and forward through 1946.)
- (c) Estimation of runoff from areas which are not measured by comparison with similar areas on which records are available, and from precipitation and other available data.
- (d) Estimation of present depletions above key gauging stations based on information pertaining to present irrigated acreages shown in the Bureau of Reclamation Report dated March 1946 and unit rates of depletion now incorporated in the Bureau's report, as they may be modified by subsequent studies.
- (e) Estimations of channel losses along the main stream as follows:
 Green River from the Wyoming-Utah line to the Junction with the Colorado River;
 San Juan River from Rosa, New Mexico to the Junction with the Colorado River;
 Colorado River from the Colorado-Utah line to Lee Ferry.

3. Studies of river and reservoir operations to determine the extent to which the Upper Basin can make use of its allocated water supply during drought cycles and still meet its compact obligation at Lee Ferry.

The Report of the Bureau of Reclamation has been consulted and referred to, and contains information of great value to the studies herein proposed and to the States of the Upper Colorado River Basin. It describes present developments and lists potential projects and possibilities the aggregate effect of which, if all were constructed, would deplete the flow of the Colorado River at Lee Ferry by an estimated 9,100,000 acre feet annually. Potential uses of water constitute important factors in dividing available supplies among individual States, and are considered to be involved up to the 7,500,000 acre feet heretofore allocated to the Upper Basin by the Colorado River Compact.

Respectfully submitted,

ENGINEERING ADVISORY COMMITTEE,

S/	John R. Riter	Chairman
S/	R. Gail Baker	Arizona
S/	C. L. Patterson	Colorado
S/	John H. Bliss	New Mexico
S/	F. W. Cottrell	Utah
S/	H. T. Person	Wyoming."

Lee Ferry is defined in the Compact as a point below the junction of the Colorado River and Paria River. Lees Ferry is a geological survey name for the gauging stations of the Colorado and the mouth of the Paria River.

Mr. Chairman, that constitutes the report. Is it your desire that we have some explanation? We have prepared and tacked on the wall a copy of the map which is to be furnished to each of the States. We have placed together all seven maps representing the entire Colorado River Basin. This Commission is interested in the Basin above Lee Ferry which is a point defined by the Compact on the Colorado River, below the junction of the Colorado River and Paria River. The Committee felt that an important consideration should be

the determination of the runoff originating in each State. The Committee also felt that in view of the record of runoff which has been accumulated at Lees Ferry and Paria River since 1922 and considering the obligation in the Compact for the States of the Upper Division to deliver water at Lee Ferry, or more correctly as the Compact reads, the States in the Upper Division shall not cause the flow at Lee Ferry to be depleted below an aggregate of 75,000,000 acre feet in any period of ten consecutive years. In addition, there may be some obligation under the Mexican Treaty for the Upper Basin to deliver water at Lee Ferry. That's a matter that has to be thrashed out and decided upon, but in any event, examination of the record shows that in a period such as from 1931 to 1940 inclusive, a ten year period, the recorded flow at Lee Ferry averaged about 10,000,000 acre feet annually. The virgin flow average for that period, 1931 to 1940 inclusive, is 12,000,000 acre feet. If the Upper Basin is to deliver an average of 7,500,000 acre feet annually, it does not leave the Upper Basin in such a ten-year period 7,500,000 acre feet; in other words, 12,000,000 less 7,500,000 is 4,500,000. The long time average virgin runoff at Lee Ferry is about 16,000,000 acre feet annually.

In order to beneficially consume as much as possible all of the water allocated to the Upper Basin and still meet the obligation of not depleting the flow at Lee Ferry in a low ten-year period such as from 1931 to 1940 inclusive, it becomes necessary to consider main stem storage. A number of sites have been surveyed, shown on the Bureau's report, along the main stem--Dark Canyon, Dewey Site, Rattle Snake, Desolation, Echo Park, Split Mountain, Flaming Gorge, Juniper--those are the principal sites. There is also a site on the San Juan at Bluff.

We felt that all the States have a common interest in this main stem portion of the River. That interest comes in several ways. In the first place, the engineers on the Committee felt that we all have a common interest in having reservoirs built so that we can store water in years of plentiful runoff and release it in drought periods, to avoid the depleting of the flow at Lee Ferry below the Compact requirements. In the second place, a computation of the contributions by the various States and losses in the main stem indicates that Wyoming is interested in the loss between the Wyoming-Utah line along the Green River and along the Colorado River to Lee Ferry. Colorado is interested in the loss of water between the State line of Colorado and Lee Ferry. Water from Colorado will reach Lee Ferry through any one of three routes: (1) From Yampa and White Rivers via Green River and the main stem of the Colorado River below the junction of Green River; (2) Colorado River; and (3) the San Juan River and Colorado River below the junction of the San Juan River. New Mexico is also interested in any losses in the San Juan River and from the tributaries which drain into the San Juan River from Colorado.

It is a very intricate study taking all these things into consideration to determine the origin of the waters. That involves tabulation of the historic flows at gauging stations and extension of such records by estimates and estimate of the depletions by reason of irrigation development on each of the streams by States. So far as Utah is concerned, the Committee felt it would be unfair to determine the water originating in Utah by subtracting from the flow at Lee Ferry the flow originating above the State line, thus throwing on Utah the burden of all the water loss along the main stem above Lee Ferry.

The Bureau of Reclamation has assembled the map which has been tacked on the wall. We will have other maps assembled as soon as they are available. We are getting prints of the new maps and will endeavor to assemble them and forward copies to each of the States.

At the request of the Commission in the meeting held at Salt Lake City, it was requested that each of the States be furnished with copies of the

historic records at each of the base gauging stations. Compilation of the historic flows have been made and mailed to each of the states last week.

The work outlined is a tremendous job. In carrying forth the program, it will take the joint effort of all of us. The Bureau of Reclamation is willing to do its share. We have assigned two men, Mr. Dugan and one helper, to devote full time to this particular problem. The Chairman apparently has ambitions of having a compact ready to present to the legislatures in January, 1947.

If these engineering studies are completed, we will need to have at least three men from each State and three men from the Bureau of Reclamation working continuously at this job for two months. That's a rough estimate of the time required to complete the studies outlined in the report, if the Commission should wish to proceed on that basis. In addition to the studies for determination of origin of water and losses in the main stems, the study involves the operation of reservoirs on the main stems. The Committee felt that the Commission should also consider the project potentialities. As quoted in the last paragraph of the Report, we also felt it would be useless to allocate water to a State in quantities greater than its possibilities for using that water. That is the reason the last paragraph was retained.

Mr. Chairman, that constitutes the report. I suggest you might find it advisable to call on the other Members or Advisers of the Committee to supplement my remarks in case I have overlooked important items.

COM. McCLURE: You suggested three men from each State.

MR. RITER: Yes, sir, it is just an estimate. That's eighteen men working for the Commission. I don't think that is too many with which to make this study. That is an average, maybe some of the States should have more than three, some less, depending upon the amount of work involved and how we spread it out.

THE CHAIRMAN: The Chairman now wishes the Commissioner from Arizona to ascertain from his Engineer Adviser if there is any further comment.

MR. BAKER: I have nothing.

COM. CARSON: I have one thought here. I think you have a good report, Mr. Riter. You ascertain the present use in each of these States but how about potentiality as to future use?

MR. RITER: I think, Mr. Carson, we anticipate that in Item 2 (d) of the Engineering Committee Report. Would it be your desire we insert in Item 2 (d) the words, "by states"?

COM. CARSON: I would like to know just the present uses of the various States and the potential uses.

COM. BISHOP: The Bureau will estimate all of that. If you want to add "by States" you can do that.

THE CHAIRMAN: I am sure that was the intention.

COM. STONE: Mr. Patterson, do you have any supplemental statement to make on this Report?

MR. PATTERSON: We have sort of an outline map of just the Upper Basin. It is a skeleton map showing the water courses, main streams and tributaries, above Lee Ferry. It is prepared on a larger scale than the

present map. My promise was to complete the map, which will show the location of each of the gauging stations mentioned in the Report of the Engineering Committee, and show the area commanded by each of the gauging stations. The map that Mr. Riter has been explaining, which was prepared by the Bureau of Reclamation, is pretty well covered up by lettering and green, red and yellow coloring. It is difficult to spot the gauging stations and the Basin drainage boundary lines on the Bureau map. It was believed better that we complete the map which had been started by the Colorado Water Conservation Board. We have agreed to furnish a copy of that map to each of the Members of the Engineering Committee and finally, when it is finished to the satisfaction of the Committee, negatives will be made for each State which can then reproduce as many copies as necessary. The original of the map will be for the use of the Commission if it so desires.

THE CHAIRMAN: On the general explanation that Mr. Riter made, I think he has pretty well outlined the problems which the engineers were confronted with. The only thought I want to leave is this: I want to emphasize that it is a big job. It isn't only a big job for any one group of men or six or eighteen or how many tackle it, but from time to time, there will be questions arising which are going to require careful discussion and debate because they involve elements of judgment and I am not trying to suggest taking additional time. All I want to say is that we had to start with something. This is not a complete list of all the engineering investigations which this Commission may desire as it works along, but it is a place to start, dealing fundamentally with water, its sources, its present status of development, how much gets down to Lee Ferry, and how losses are to be apportioned. There will be further studies to be made of the problem of dividing up water by this Commission. As to the matter of time Mr. Riter outlined in this Engineering Committee's Report, that is his own estimate.

MR. RITER: That is right, the Committee did not discuss the matter of time. I tried to meet the hopes and ambitions of the Chairman.

THE CHAIRMAN: Mr. Watson, Commissioner for Utah, does your Engineer Adviser have any comments?

MR. COTTRELL: I have nothing to add to what Mr. Riter and Mr. Patterson have already mentioned.

THE CHAIRMAN: Mr. McClure, Commissioner for New Mexico, has your Engineer Adviser any comments?

MR. BLISS: Nothing, except as an answer to Mr. Carson's question. It seems to me that in our analysis of virgin flows, we must necessarily cover one of the points he has brought up and determine the present uses on the River. These will have to be fully and thoroughly investigated. As far as future uses are concerned, estimates of some of these have been made and pretty fairly set out by the Colorado River Basin Report of the Bureau.

THE CHAIRMAN: The Commissioner for Wyoming.

COM. BISHOP: I have nothing to add.

THE CHAIRMAN: It appears to the Chairman that this is a basic study which must be made in whole or in part and I believe the Commissioners should now take appropriate action and decide whether they are going to accept or reject the Engineering Committee's Report.

COM. BISHOP: Mr. Chairman, I move acceptance of the Report of the Engineering Committee, with the understanding that additional

studies and revisions be made as are found necessary in future investigations.

THE CHAIRMAN: Is there any further discussion? Those in favor of the motion say "aye." Contrary, "no." The motion is unanimously carried.

COM. BISHOP: Mr. Chairman, for the purpose of the records, I would like to submit my credentials as a Member of this Commission.

THE CHAIRMAN: Very well, Mr. Bishop, that will be made a part of the record.

"Wm. 'Scotty' Jack
Secretary of State

A. E. Johnson
Deputy

STATE OF WYOMING
DEPARTMENT OF STATE
Cheyenne
July 30, 1946

TO WHOM IT MAY CONCERN:

I, WM. 'SCOTTY' JACK, SECRETARY OF STATE OF THE STATE OF WYOMING, do hereby certify that L. C. BISHOP is the duly appointed, qualified and acting STATE ENGINEER within and for the STATE OF WYOMING.

I FURTHER CERTIFY that by virtue of his office as STATE ENGINEER, he is the COMMISSIONER FOR WYOMING and is thereby authorized to represent the STATE OF WYOMING as provided in Chapter 102, Section 2, Session Laws of Wyoming, 1941. Such authority permits him to enter into compacts and agreements respecting the future use of and distribution of water of any interstate stream from Wyoming and all other matters as set forth in Section 1, Chapter 102, Session Laws of Wyoming, 1941.

(SEAL)

S/ WM. 'SCOTTY' JACK
Secretary of State."

THE CHAIRMAN: You have hear the report of the Engineering Committee and it has been emphasized that considerable work must be done. I think at this time the Commissioners should consider the organization of a permanent engineering committee, a committee that is going to do work and put in all the time that is necessary. I am afraid that if we allow the work of the Commission to drag along without some objective as to purpose and time, that the Members of this Commission will be looking for an alibi later. It is highly essential that everything be done at this time to work out a compact at the very earliest time. So far as the Bureau of Reclamation is concerned, I feel sure it will furnish all technical assistance that is necessary. I take it on myself to see that that is done.

I think the States realize the urgency of this matter. Whether you attain your objective as to time or not, nobody knows, but certainly, if this Commission doesn't set up an objective as to time required for the completion of this compact, the Lord only knows how long it will take to get the job done. If the Commission fiddles around with a meeting once a month for a couple of days, I don't think any of us will live long enough to see its consummation.

COM. STONE: Mr. Chairman, I move that the Commission set up a permanent engineering committee consisting of representatives of the compacting States and of representatives of the Federal Government, the State Commissioners and the Federal Representative to be responsible for designating their respective members on such committee, and that as a matter of expressed objective and intent, this committee be advised by the Commission

that it is its desire that the work be accomplished as soon as practicably possible.

THE CHAIRMAN: You have heard the motion; do I hear a second?

COM. BISHOP: I second the motion.

THE CHAIRMAN: Any discussion?

COM. WATSON: I would like to ask a question, if there will be any limit to the number of members chosen by each of the respective States.

THE CHAIRMAN: I think at this time the Chair will entertain a motion for adjournment. You can think about this proposition during the lunch period. Perhaps you might wish to make a change on it, but we will adjourn until 1:00 o'clock. Do I hear a motion to that effect?

COM. STONE: I move that we recess until 1:30 p.m.

COM. BISHOP: I second the motion.

THE CHAIRMAN: It has been moved and seconded that we recess until 1:30 p.m.

(Motion was put to a vote and unanimously carried.)

(1:30 p.m., September 17, 1946.)

THE CHAIRMAN: The meeting will now come to order.

COM. STONE: Mr. Chairman, in further explanation of my motion which was made prior to adjournment for lunch, I should like to say that with respect to that part of my motion which left the question to each State as to the number of members on the Committee, such motion was made with this in mind:

1st. That we must recognize that this Committee is merely advisory to the Commission.

2nd. That we want to bring to bear in these engineering studies the best engineering judgment available.

3rd. That the facts are not determined on the basis of votes by the members of the Engineering Committee.

4th. If there is any disagreement as to the facts in the report to this Commission, the final determination, in any event, will be determined by the vote of the Commission.

With further reference to my motion, I wish to state that we would not like as far as Colorado is concerned to be limited to one man. I should like to say that each Commissioner understands better than anyone else the condition in his own State, and the procedure which will bring about a most satisfactory situation with respect to the compact negotiations. After a compact is negotiated, we have the important hurdle in each of these States, namely, the ratification of the compact. Colorado has many interests and often diverse interests. We must proceed cautiously in the way of bringing about an acceptable understanding of any compact that is negotiated. I recognize that a small committee is a most workable committee and where desirable a committee should be kept small, yet, so far as my State is concerned that is not entirely satisfactory. I make this explanation so as to indicate that there is no desire on the part of Colorado either to delay or to bear undue influence in any engineer-

ing studies. Our desire is to assist and aid in every way possible in arriving at the facts and bring to bear the best engineering judgment we have in representing the various factions and interests within my State.

COM. McCLURE: I am opposed to any time limits of these negotiations to the utmost. Unfortunately, New Mexico is involved in another compact, negotiations which have been going on for several years on the Pecos River. We finally arrived at a point where Texas is naming an engineer which we hope will take the facts and try to reach some kind of agreement. We are more or less obligated at the present time to make certain studies.

There is one observation that I want to make and that is the final action on this compact is going to be with your State legislature and each one of us as Commissioners are going to have to go into that legislature with full convictions that we have got a compact that can be passed and ratified. Regardless of how much we might want to expedite getting this matter, we still can't go in there with a half-baked agreement. I think, if we look to an agreement, it is one that is going to have to be satisfactory to the Commissioners themselves so that they can show to their legislatures that it is an equitable agreement--uses of water in the various States on an equitable basis and that their advisers that have worked with them can do the same thing, we will save a great deal more time than if we try to hurry some of these things. I would like to see a compact negotiated this afternoon if possible. I have had enough experience in negotiating these compacts--going a little bit slower, have matters ironed out on a sound basis.

THE CHAIRMAN: I have heard no expression to the effect, by any Commissioner, that this work is to be slighted in any way by expediting it. We have no intention of sacrificing thoroughness.

Why not have the motion read again in order to have it clear in mind?

(The Reporter repeats Judge Stone's motion.)

THE CHAIRMAN: You have heard the motion read by the Reporter. The motion has been seconded. Any further discussion of the motion as read? Question has been called for. Those in favor of the motion will respond by saying "aye." Contrary "no." The "ayes" have it and the motion is carried unanimously.

COM. STONE: I now move that Mr. J. R. Riter, who served as Chairman in the Engineering Committee set up to make the engineering studies program, be designated by the Commission as Chairman of this permanent Engineering Committee.

COM. WATSON: I second the motion.

COM. BISHOP: I believe it would be more orderly if the Chairman would call for the names of the representatives of the various States and if this group wants to designate the chairman, rather than have us designate who is going to be the chairman.

COM. STONE: I am willing to hold my motion in abeyance until the representatives are designated, Mr. Bishop.

THE CHAIRMAN: The Chairman will now call on the Commissioners to name their engineers to this permanent Engineering Committee. Arizona?

COM. CARSON: R. Gail Baker, State Land Department, Phoenix, Arizona.

THE CHAIRMAN: Colorado?

COM. STONE: C. L. Patterson, Chief Engineer, Colorado Water Conservation Board, Denver, Colorado; R. J. Tipton, Consulting Engineer, Colorado Water Conservation Board; Frank C. Merriell, Colorado River Water Conservation District, Grand Junction, Colorado.

THE CHAIRMAN: New Mexico?

COM. McCLURE: John H. Bliss, Engineer Adviser, New Mexico Interstate Streams Commission.

THE CHAIRMAN: Utah?

COM. WATSON: Fred W. Cottrell, Chief Deputy, State Engineer's Office, Salt Lake City, Utah.

THE CHAIRMAN: Wyoming?

COM. BISHOP: H. T. Person, Engineering Bldg., University of Wyoming, Laramie, Wyoming, Consultant for the Wyoming Commission.

THE CHAIRMAN: The Chairman designates Mr. J. R. Riter of the Bureau of Reclamation as his Engineer Adviser.

COM. STONE: I don't know whether my motion was acted upon.

COM. CARSON: I think it would be better if we designated Mr. Riter so that he will feel the responsibility of getting things expedited.

COM. WATSON: I seconded Judge Stone's motion.

THE CHAIRMAN: You have heard the motion, duly seconded. Are you ready for the question? Question has been called. Mr. Reporter, will you read the motion as made by Judge Stone?

(The Reporter repeats Judge Stone's motion.)

THE CHAIRMAN: You have heard the motion, duly seconded. All in favor of the motion will say "aye," contrary, "no." Motion carried unanimously.

It is the understanding of the Chairman that the gentlemen mentioned are to carry the burden of these investigations, but that wherever necessary, additional help will be furnished by the States, if the States are able to do it. Is that a correct interpretation of the matter? Is that your understanding, Mr. Bishop?

COM. BISHOP: Yes, sir.

COM. CARSON: Yes, sir.

COM. WATSON: Yes, sir.

COM. McCLURE: Yes, sir.

COM. STONE: Yes, sir.

THE CHAIRMAN: A motion is now in order for this Engineering Committee to organize and come back later during these meetings and report to this Commission.

COM. BISHOP: Mr. Chairman, I move that the Chairman direct Mr. Riter to assemble his Committee for organizing and report back to the Commission, with an estimate of the time and personnel required to carry out the program which has been approved by this Commission.

COM. WATSON: I second the motion.

THE CHAIRMAN: A motion has been made and seconded. All in favor will signify by saying "aye," contrary, "no." Motion carried.

In accordance with the motion just passed, the Chairman directs Mr. Riter and his group of Engineers to retire, find a suitable place to organize and to come back and report to this Commission by 10:00 a.m. tomorrow, Wednesday. Is there any further business to come before the Commission today?

COM. STONE: May we save time by taking up some of the details while the Engineering Committee is out? There is the matter of the correction of the record of the Salt Lake City meeting which will take some time and other questions which we could dispose of this afternoon while the Committee is out, and save time.

THE CHAIRMAN: That's a very good suggestion by Judge Stone. The Chair would like to make this suggestion also: During the time that will be required for these engineers to prepare this data, this Commission might want to hold some meetings in some of the States in order to acquaint the people with the work of the Commission. I don't know what the idea of the Commissioners might be on that, but I offer that for your consideration. I see no real reason for having another meeting of the Commission to consider factual data which these engineers will prepare, within the next fifty or sixty days. I can see a useful purpose by possibly having some meetings in various points in the States. You may consider that and take it up at the proper time, or discard it if you wish.

In order to get this business before the Commission, Judge Stone, do you have in mind a resolution?

COM. STONE: It is just a matter of procedure, Mr. Chairman.

At the organization meeting in Salt Lake City, one action which was taken I thought appeared to be inequitable. You will recall that we decided that the expense incident to reportorial services including the cost of transcripts was to be borne equally among the five States. Four of the States have a major interest in these compact negotiations. The State of Arizona has a minor interest. It seems to me unfair to ask Arizona to bear one-fifth of that expense. May I suggest that we reconsider that action. It would be appropriate for Mr. Carson to make an expression as to what he thinks would be an equitable share.

COM. CARSON: We have a very minor interest and we don't have a very large appropriation from which this expense can be paid. It seems to me that we should pay for one copy of the transcript and not share in any of the other expenses, traveling expense or otherwise.

COM. McCLURE: I move that the expense of the Commission be divided equally among the four States of the Upper Division; that if any State of the Upper Basin desires a copy of the transcript, such State will pay for the same at the rate per page to the reporter. If Arizona desires a copy of the transcript, it will be furnished at a per page rate.

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COM. STONE: I second the motion.

THE CHAIRMAN: You have heard the motion made by Mr. McClure. Any further discussion? Those in favor of the motion will say, "aye." Contrary, "no." The motion is carried unanimously.

COM. STONE: I suggest that we proceed to correct the record of the Salt Lake City meeting.

COM. McCLURE: I am inclined to believe, Mr. Chairman, that our record of the transcript of these meetings is going to be better if we can employ a reporter to handle all of it. In Salt Lake City, at the meeting Miss Price submitted an estimate of what the cost would be. Since that time she has revised those costs and I would like to hear some discussion by the other States in regard to accepting her proposal as made under the revision which is as follows: \$10.00 per day for reporting proceedings, 30¢ per page for copies of the transcript and actual expense for traveling and subsistence. I am under the impression that the same reporter for all meetings will be far better than having different reporters at different places. In some of the places we might be unable to obtain them.

COM. BISHOP: I agree with Mr. McClure. I make a motion that we accept the proposal of Miss Price.

COM. WATSON: I second the motion.

THE CHAIRMAN: Those in favor of the motion will respond by saying, "aye." Contrary, "no." Motion is carried unanimously.

MR. GILES: Mr. Chairman, at the Salt Lake City meeting, the Commission passed a motion that the Secretary of the Commission would come here prepared to make recommendations as to the correction of that transcript. I am ready to suggest corrections at this time if the Commission so desires.

THE CHAIRMAN: There has just been handed to the Chairman a copy of the credentials of the Commissioner for New Mexico. It is a letter from Commissioner McClure to Grover A. Giles, Secretary of the Commission, dated August 20, 1946. If there is no objection, that will be made a part of the record.

"August 20, 1946"

"Hon. Grover A. Giles, Secretary
Upper Colorado River Basin Compact Commission
c/o Attorney General's Office
Salt Lake City, Utah

Dear General Giles:

I am herewith submitting for the record of the Upper Colorado River Basin Compact Commission, an excerpt, from the minutes of the August 9th, 1946, meeting of the New Mexico Interstate Stream Commission, which will constitute my credentials as representative for New Mexico on the Upper Colorado River Basin Compact Commission.

I quote from the above mentioned minutes:

'The matter of appointing a permanent Commissioner for the Upper Colorado Basin States Compact Commission was taken up. Chapter 77, Article 33, New Mexico Statutes, 1941 Annotated, is the Statute creating the New Mexico Interstate Stream Commission. Chapter 77, Section

3303, New Mexico Statutes 1941 Annotated, reads as follows, in part:

"General Powers of Commission - Interstate Compact Employees - Attorney General's Duties. Said Commission is hereby authorized to negotiate compacts with other states to settle interstate controversies or looking toward an equitable distribution and division of waters in interstate stream systems, subject, in all cases, to final approval by the legislature of New Mexico."

'Acting under the above quoted authority, Mr. Phillips moved that Mr. Thomas M. McClure be named as Commissioner to represent the State of New Mexico on the Upper Colorado River Basin States Compact Commission in the negotiations for allocating the waters of the Colorado River Compact to the interested States. The motion was seconded by Mr. Rodey and upon being placed to a vote was carried unanimously.'

This I believe will complete the record regarding my credentials as stated on page 12 of the transcript of the July 31st meeting of the Commission in Salt Lake City.

With kindest personal regards, I am

Very truly yours,

THOMAS M. MCCLURE, Commissioner
Upper Colorado River Basin
States Compact Commission."

TMM/mt

(At this point the Commissioners considered a revision of the transcript of the Cheyenne meeting.)

CCM. MCCLURE: Mr. Chairman, I move that the transcript as revised, of the Governor's conference in the matter of the Upper Colorado River Basin Compact held at Cheyenne, Wyoming on July 22, 1946 become a part of the record of this Commission and be considered as a preliminary organization meeting, at which time the States agreed to compact negotiations, and that the Salt Lake City meeting of July 31, 1946 be designated as the Number 1 or first meeting of the Upper Colorado River Basin Compact Commission.

CCM. WATSON: I second the motion.

THE CHAIRMAN: You have heard the motion which has been seconded. Is there any further discussion? Those in favor will signify by saying, "aye," contrary, "no." The motion is carried unanimously.

COM. STONE: I suggest that we proceed with the correction of the transcript of the first meeting of the Upper Colorado River Basin Compact Commission held at Salt Lake City on July 31, 1946.

COM. BISHOP: I second the motion.

THE CHAIRMAN: You have heard the motion duly seconded; is there any discussion? All those in favor of the motion will signify by saying, "aye," contrary, "no." The motion carried unanimously.

(Meeting of the Commission reconvened on Wednesday, September 18th, 1946.)

THE CHAIRMAN: The meeting will come to order. We have several matters to dispose of today. First, to hear the Report of the Permanent Engineering Committee and second, to dispose of the question as to whether or not the Commissioners will hold meetings in the field and when. Without objection, we will now hear from the Chairman of the Engineering Committee.

MR. RITER: Our Committee made the following conclusions:
(Mr. Riter reads following report.)

REPORT TO UPPER COLORADO RIVER BASIN COMPACT COMMISSION
By PERMANENT ENGINEERING ADVISORY COMMITTEE

Pursuant to instructions, the Members of the Engineering Advisory Committee listed below met at the La Fonda Hotel on September 17th to determine the time and personnel required to carry out the engineering studies approved by the Commission.

Committee Members

J. R. Riter, Chairman, U.S. Bureau of Reclamation
R. Gail Baker, Arizona
C. L. Patterson, Colorado
R. J. Tipton, Colorado
John H. Bliss, New Mexico
F. W. Cottrell, Utah
H. T. Person, Wyoming.

Others Present:

John R. Erickson, Colorado
H. P. Dugan, U.S. Bureau of Reclamation
C. S. Jarvis, Utah

After discussion of problems involved, the Committee made the following conclusions:

1. The Bureau of Reclamation will complete the assembly of maps for the Colorado River Basin and forward copies to the States by October 1.
2. Mr. Patterson of Colorado distributed to each State and to the Bureau of Reclamation, copies of the base map of the Upper Colorado River Basin. Each State is to review the location of gauging stations and the watershed areas shown thereon and make corrections as may be found necessary and return the needed information for preparation of a final map, to Mr. Patterson of the Colorado Water Conservation Board not later than October 3.
3. It was agreed that the monthly discharge records will be compiled to show runoff to the nearest 100 acre feet. The tables previously compiled by the Bureau will be checked by the Bureau of Reclamation and the annual totals made equal to the sum of the monthly quantities. Utah will tabulate and furnish to each of the other States and to the Chairman, copies of the monthly discharge records of Burnt Fork, Blacks Fork, East Fork of Smith Fork and West Fork of Smith Fork. Mr. Baker of Arizona will tabulate the monthly discharges of Moenkopi Wash near Tuba City and of Little Colorado River near Grand Falls. These data will be used in estimating the flow of some unmeasured areas. This work to be completed before October 3.
4. Mr. Tipton of Colorado will make available on September 23rd for

review by the Committee, a study which Colorado and New Mexico made about 1934, of stream flow records on the San Juan River. The Bureau will assemble, before October 3, and review for usability in the Committee's studies, computations previously made by the Denver and the various field offices of the Bureau of Reclamation.

5. The Committee will meet in Denver on October 4th and 5th, and on the basis of information which has been gathered up to that date, will formulate specifications and procedures for the following items of work:

- (a) Extension of discharge records at the selected key gauging stations.
- (b) Estimation of runoff from areas which are not measured.
- (c) Estimation of past and present depletions by States above key gauging stations.
- (d) Estimation of channel losses along the main streams.
- (e) Operation of main stem reservoirs.

Members of this Committee and their staffs will make studies of these problems between now and the October 4 meeting and come to the meeting prepared to discuss intelligently the problems involved with a view of formulating procedures, which can be unanimously adopted by the Committee and applied to the problem.

Some discussion was had of personnel which can be assigned by each of the States. Definite commitments will be made at the October 4th and 5th meeting.

Tentatively, the following personnel will be assigned to the studies:

Arizona,	Mr. Baker and possibly 1 other.
Colorado,	C. L. Patterson, R. J. Tipton, John R. Erickson, a draftsman and a Computer.
New Mexico,	John H. Bliss
Utah,	C. S. Jarvis and 1 other
Wyoming,	H. T. Person and students
Federal,	J. R. Riter, H. P. Dugan and such other helpers as can be used effectively. We will also solicit help from Region IV.

THE CHAIRMAN: Gentlemen, you have heard the report. Are there any questions?

MR. RITER: We talked in generalities and brought up a number of ideas. We will have to give a lot of earnest, concentrated effort in order to agree upon one line of action.

THE CHAIRMAN: Was there any discussion or estimate made on how long it would take to get the job done?

MR. RITER: We discussed this problem with the other engineers. None of the engineers were prepared to make any alternate estimate than the one I presented to the Commission yesterday of thirty-six man-months. At the October meeting, we will make definite plans, including time schedules.

MR. TIPTON: The engineers had no further idea that is materially different as to man-months, but they had a definite idea as to how many. Yesterday, Mr. Riter estimated the time at eighteen men working two months,

that is thirty-six man-months. It is quite obvious that eighteen men cannot be placed upon this job and work effectively. In the first place, you couldn't get eighteen men to do this kind of work. If you did, you couldn't do the work effectively in such little time. While thirty-six man-months might be correct, yet most members of the Committee felt it was entirely inadequate so far as the length of time was concerned. Thirty-six man-months might be correct--two months is entirely inadequate.

MR. RITER: The Bureau has made a number of studies. I don't know to what extent its studies are going to be used by the Committee. We will have those studies assembled and digested and will be prepared to discuss them with the Committee and find out to what extent if any, they will be found usable. That is one thing we can't tell at this time. That is one of the things we are going to discuss at the October meeting. We realize the urgency and the desire to bring this to a conclusion.

THE CHAIRMAN: The Chair is wondering what degree of accuracy the Engineering Committee expects to obtain after all of these calculations and studies, realizing, or accepting, if you will, the fact that there are compensating errors in any of these calculations and estimates.

MR. RITER: It is our desire to give the Commissioners the best information we can with the data we have available.

MR. TIPTON: Mr. Chairman, this Commission has appointed an Engineering Committee. This Commission is expecting from the Engineering Committee something on which the Commission can rely. In the appointment of an Engineering Committee, I think the Committee has a right to assume that the Commission has confidence in that Committee, as to methods to be used and as to the degree of accuracy that the Committee feels should be applied to the studies, so that the Commission will have something upon which it can rely. I, as a Member of that Committee am not willing to turn out something on which I myself cannot rely and upon which I cannot say to this Commission that it could rely. So, I think that the Commission has to place some confidence in the Committee.

THE CHAIRMAN: As far as the Chairman is concerned, there is no question about your statement, but nevertheless, we have got to have our objectives which we are going to try to get, and I think you would say, Mr. Tipton, that some of these studies are not possible of exact determination. I had in mind River losses. I have a notion that that is not possible of exact determination.

Any further comments or questions?

COM. BISHOP: If there is no further discussion, I move the adoption of the report of the Engineering Committee.

COM. WATSON: I second the motion.

THE CHAIRMAN: Is there any further discussion? If not, all those in favor of the motion will signify by saying, "aye." Contrary, "no." The Report is unanimously accepted.

It appears to the Chairman at this time, that the next item for consideration is that of the time and place of the next meeting of the Commission.

COM. WATSON: I think that the Chairman suggested yesterday that we consider holding meetings in the Basin, continuing the meetings over any given period, in order to acquaint the people with the problems of the Commission and also acquaint ourselves with the problems in the field, and in view of that

fact, I think that we should adopt that idea and act accordingly.

I make a motion that we hold meetings as follows: Starting at 1:00 p.m. October 28th, 1946, the first meeting will be held at Rock Springs, Wyoming. On October 29th we travel to Grand Junction and hold the next meeting at 10:00 a.m. on Wednesday, October 30th, at Grand Junction, Colorado. On Thursday, October 31st, at 2:00 p.m. we hold our next meeting at Price, Utah, it isn't far there. Then we will allow all day Friday, November 1st, to travel to Farmington, New Mexico, and we will hold the meeting at Farmington, New Mexico, on Saturday, November 2nd, at 10:00 a.m.

CCM. BISHOP: I second that motion.

THE CHAIRMAN: Those in favor of the motion will signify by saying, "aye." Contrary, "no." The "ayes" have it and the motion is unanimously carried.

CCM. STONE: Is it not necessary to act upon the revision of the Salt Lake City meeting, the revision of the transcript?

THE CHAIRMAN: Yes.

CCM. STONE: I move that the transcript of the meeting of the Commission held at Salt Lake City on July 31st be approved as revised at a meeting of this Commission yesterday, and that the Secretary be instructed to revise the transcript in accordance with the action of this Commission and that he furnish each Member of the Commission one copy.

CCM. BISHOP: I second the motion.

THE CHAIRMAN: You have heard the motion. Is there any discussion? If not, those in favor will indicate by saying, "aye." Contrary, "no." The motion is unanimously carried.

This transcript made by Mr. Romero will be forwarded to Mr. Giles.

CCM. STONE: It is understood that the transcripts of the Commission meetings and any other documents or material dealing with this Commission are to be placed in the hands of the Secretary, who is responsible for the record and the distribution of copies of the record.

MR. GILES: We will need an original and six copies of the transcript of this meeting.

CCM. STONE: Let the record show that any expense of the Commission, any expense incurred for the Commission in the way of reporter's fees and other necessary expense shall be billed and submitted to the Secretary who shall apportion that expense in accordance with the action heretofore taken by the Commission and send such bills directly to each Commissioner who will see to it that such expense is paid by his State.

THE CHAIRMAN: Does the Chair hear any objection? If not, the statement stands as approved. This meeting will be officially designated as Meeting No. 2 of the Commission. We can't fix the time for Meeting No. 4 until the engineers indicate they are ready to report. Don't you think that the record should be closed with some sort of statement concerning that?

CCM. McCLURE: At the end of Meeting No. 3, which will be this series of meetings in the field, we may be in a position to designate the time.

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COM. STONE: Let the record show that following the next meeting, which is meeting No. 3 of this Commission, meeting No. 4 will be held at a time to be fixed when the Commission is advised that the Engineering Committee is ready to report; that the Secretary be instructed to advise the Chairman of the Engineering Committee to inform him when the report is ready; that when the report is ready the Secretary shall then communicate with the Members of the Commission and arrange the time for holding meeting No. 4 of the Commission, at which meeting, the report of the engineers will be considered by the Commission, and that such meeting No. 4 of this Commission be held at Denver, Colorado.

THE CHAIRMAN: Let the record show that meeting No. 3 is a series of field hearings agreed to by the Commission.

COM. BISHOP: Mr. Chairman, if there is no further business to come before this Commission, I move that we adjourn.

COM. STONE: I second the motion.

THE CHAIRMAN: It has been moved and seconded that the meeting of this Commission adjourn. Do I hear any discussion? If not, all those in favor will signify by saying, "aye." Contrary, "no." The motion is carried and we will adjourn.

UPPER COLORADO RIVER COMPACT COMMISSION

OFFICIAL RECORD OF MEETING NO. 3

SERIES OF PUBLIC HEARINGS

Sessions At

Rock Springs, Wyoming	October 28, 1946
Grand Junction, Colorado	October 30, 1946
Price, Utah	October 31, 1946
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Rock Springs, Wyoming
(First in Series of Four Public Hearings)
October 28, 1946

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Upper Colorado Basin States Compact Commission
Farmington, New Mexico
November 2, 1946

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APPEARANCES
UPPER COLORADO RIVER BASIN COMPACT COMMISSION.

HARRY W. BASHORE, CHAIRMAN
Federal Representative
Mitchell, Nebraska

A. W. WATSON, ACTING SECRETARY
Salt Lake City, Utah

COMMISSIONER FOR THE STATE OF ARIZONA:

Charles A. Carson Special Attorney for Arizona, 419 Title & Trust
Building, Phoenix, Arizona.

COMMISSIONER FOR THE STATE OF COLORADO:

Clifford H. Stone Director, Colorado Water Conservation Board,
State Office Building, Denver, Colorado.

COMMISSIONER FOR THE STATE OF NEW MEXICO:

Thomas M. McClure State Engineer, Capitol Building,
Santa Fe, New Mexico.

COMMISSIONER FOR THE STATE OF UTAH:

Edward H. Watson State Engineer, State Capitol,
Salt Lake City, Utah.

COMMISSIONER FOR THE STATE OF WYOMING:

L. C. Bishop State Engineer, Cheyenne, Wyoming.

ADVISERS AND OTHER PERSONS PRESENT

COLORADO:

Jean S. Breitenstein Attorney, Colorado Water Conservation Board,
718 Symes Building, Denver, Colorado.

NEW MEXICO:

Fred E. Wilson Special Assistant Attorney General and Attorney
for New Mexico Interstate Stream Commission,
Albuquerque, New Mexico.

UTAH:

Edward W. Clyde Special Assistant Attorney General,
Salt Lake City, Utah.
C. S. Jarvis State Engineer's Office,
Salt Lake City, Utah.
Wm. R. Wallace President, Utah Water Users Association,
Salt Lake City, Utah.
Thos. W. Jensen Utah Water Users Association,
Mt. Pleasant, Utah.

WYOMING:

Louis J. O'Marr Attorney General of Wyoming,
Cheyenne, Wyoming.
Ernest B. Hitchcock Wyoming State Planning & Water Conservation Board,
Rock Springs, Wyoming.
Emil C. Gradert Compact Commissioner,
Fort Bridger, Wyoming.
Norman W. Barlow President, Green River Basin Development Company,
Cora, Wyoming.
David P. Miller Secretary, Green River Basin Development Company,
Rock Springs, Wyoming.
Perry W. Jenkins Executive Manager, Green River Basin Development
Company, Cora, Wyoming and Salt Lake City,
Utah.

Carroll R. Noble
H. B. Carlisle
Leeland U. Grieve

John A. Reed

Platt Wilson

Orson N. Behunin
Wm. McGinnis
Joe L. Budd
Don W. Jewett
F. W. Tanner
Carl Jorgensen
Melroy Luke
Edward Davidson

Roy C. Taylor
Jesse Graham
W. S. Tanner
Oscar W. Dahlquist
Orlen F. Fackrell

John W. Field
Van A. Rupe
Charles F. Guild
Victor Fillen
John J. Segar
Felix Aimone
Carl P. Dahlquist
Milton L. Clifford
E. R. Hamblin

J. H. Jacobucci
Marshall Smith

Cora, Wyoming.
Sage, Wyoming.
Asst. Inter-State Streams Comm.,
Savery, Wyoming.
Asst. Inter-State Streams Comm.,
Kemmerer, Wyoming.
Asst. Inter-State Streams Comm.,
Kemmerer, Wyoming.
Burntfork, Wyoming.
Burntfork, Wyoming.
Big Piney, Wyoming.
Big Piney, Wyoming.
Big Piney, Wyoming.
Pinedale, Wyoming
McKinnon, Wyoming.
Blacks Fork P. & I. District,
Mt. View, Wyoming.
Mt. View, Wyoming.
Mt. View, Wyoming.
Mt. View, Wyoming.
Blacks Fork Canal Board,
Lyman, Wyoming.
Lyman, Wyoming.
Lyman, Wyoming.
Piedmont, Wyoming.
Fort Bridger, Wyoming.
Fort Bridger, Wyoming.
Fort Bridger, Wyoming.
Fort Bridger, Wyoming.
Fort Bridger, Wyoming.
Fort Bridger, Wyoming.
Blacks Forks Canal,
Fort Bridger, Wyoming.
Green River, Wyoming.

BUREAU OF RECLAMATION:

J. G. Will

J. R. Riter

N. B. Bennett, Jr.

J. Stuart McMaster

Reid Jerman

Palmer B. DeLong
Paul E. Norine
A. A. Batson
E. H. George

Assistant Chief Counsel,
Washington, D. C.
Hydrology Division,
Denver, Colorado.
Branch of Project Planning,
Washington, D. C.
Counsel, Region 4,
Salt Lake City, Utah.
Engineer, Region 4,
Salt Lake City, Utah.
Kemmerer, Wyoming.
Salt Lake City, Utah.
Denver, Colorado.
North Platte District,
Casper, Wyoming.

DIVISION OF LANDS, FOREST SERVICE:

Ralph V. Minges Denver, Colorado.

SESSION AT ROCK SPRINGS, WYOMING
MONDAY, OCTOBER 28, 1946.

The meeting was called to order by Chairman Bashore at 1:45 p.m., Monday, October 28, 1946.

THE CHAIRMAN: The meeting will now come to order. It is now a quarter to two. This is the third regular meeting of the Upper Colorado River Basin Compact Commission. At the last meeting at Santa Fe, New Mexico, the Commission decided that the third meeting should consist of a series of field hearings at points in the Upper Division States. This is the first of the series. The next one will be at Grand Junction, Colorado; the next one at Price, Utah; and the last one at Farmington, New Mexico.

The purpose of these meetings is to acquaint the people in the various states with the work of the Commission and to afford them the opportunity of expressing their opinions and ideas to the Commissioners in regard to the proposed Compact. It is the opinion of the Chairman that these meetings are very important because it gives an opportunity for an expression of ditch-bank opinion about this water allocation. If you don't understand what the Commission is doing you may ask all the questions you like. There are experts here who will try to answer those questions and I am sure the Commission will appreciate your advice and counsel in regard to these deliberations and negotiations.

Now as this meeting is in Wyoming, the Chairman now requests that Com. Bishop take charge of the meeting and explain the work of the Commission and call on anyone that he thinks might contribute something. So, Mr. Bishop, the meeting is now in your hands.

COM. BISHOP: Mr. Chairman and gentlemen, we have a Compact Commission that has been set up for the purpose of dividing 7,500,000 acre feet of water allocated to the Upper Basin States by the terms of the Colorado River Compact.

Is Mr. Norman Barlow here?

MR. BARLOW: Yes.

COM. BISHOP: Mr. Barlow, I am going to call on you first to make a statement of your understanding of the situation and all for the Basin here as President of the Green River Basin Development Company.

MR. BARLOW: Mr. Chairman, we had our annual meeting this morning of our Green River Development Company. I might say at the outset that this company is an organization that was formed several years ago to promote the development of the resources here in the Green River Valley in Wyoming. It comprises five of our southwest counties. We have a directorate of fifteen, three directors from each county, our officers and an executive committee.

We feel that our work in the past has been very beneficial, particularly in that we have been educating, we hope, the people in the Basin to reclamation and the needs of reclamation as we see it. Our meetings are becoming better attended and our meetings throughout the Basin that we have held during the years carrying on an educational program have been most beneficial to our company and to the people who are directly interested in the use of the water within our Basin here in Wyoming.

It was about two years ago, I think, that our Basin Company took official action in calling on our Governor to start a meeting for the negotiation of the water of the Upper Basin States. Our State Engineer advised the

Governor and the Governor notified the other Governors of the four Upper Basin States with not too much success. There seemed to be reasons why they didn't care to commit themselves at that particular time or there was no particular need or rush in getting started in this negotiation. We insisted and I think there was a follow-up letter. At any rate over the period of months we did get to where the four governors decided that they would officially start to negotiate and they had their first meeting last July, as you know, in Cheyenne.

We feel here in the Green River Basin in Wyoming that this is a most important thing to allocate our water particularly because we are anxious to develop, naturally, our resources here in the Basin. We want to develop them with Wyoming water. We want to develop them with Wyoming's share of this Colorado River water. We want to insure our future posterity throughout the coming ages that there will be water here for any resources that we may have to develop.

We know this, that until we decide among the four Upper Basin States what our liability is at Lee Ferry, that no one knows exactly what development may take place.

We had a meeting with the new Secretary Krug and Commissioner Straus at Laramie in June, our Basin Company, and we were encouraged at that time with the statement that Mr. Krug made in regard to the allocation of the water stating that while he was new in the Department, he was of the mind at that time to feel inclined not to urge further development until the four Upper Basin States did get together and allocate the water. It was something that we have been stressing and we were encouraged to have him make that statement.

We have had, as you have been told, preliminary meetings of the Compact Commission; and Wyoming's delegates on that Commission, I am sure, are willing to meet in a friendly attitude, in fairness to all the other states involved in getting this matter settled. We hope this afternoon in the discussion that may take place that we will do it in a sense of fairness, fair play for everyone.

We only want what belongs to Wyoming and we would like to get it negotiated at the earliest possible date.

COM. BISHOP: Thank you, Mr. Barlow. Mr. Miller, would you like to make a statement in addition to what Mr. Barlow has made?

MR. DAVID P. MILLER: I am the Secretary of the Green River Basin Development Company of which Mr. Barlow is the President. This organization has been in existence since 1938. We felt the need of some centralized organization which would help conserve the water of the Green River so far as Wyoming is concerned. To that end we organized this company, which is a non-profit organization with a representation from all the five counties of the Green River Basin in Wyoming.

We feel that we have a large interest at stake in this matter. It involves the irrigation of several hundred thousand acres of new land. It involves several large power sites. And it involves the use of a large amount of water for industrial purposes. There is just beginning to be developed in our area a new industry. A company has come in to a location which is about fifteen miles west of the town of Green River. They are developing the mineral they call trona. They are at present engaged in sinking a large shaft and they are going to make a large development. These people have told me that they intend if everything works out to have the largest

chemical plant west of the Mississippi River. This is a comparatively new development here in our community and one in which we have intense interest.

We feel that we are all on a sort of an uncertain ground pending the allocation of the water among the four Upper Basin States and as stated by Mr. Barlow, we favor that this allocation be made at the earliest possible time.

Now this morning we had a meeting of our company and we adopted two resolutions which I would like to present to the Commission. If it is appropriate I would present them at this time. Do you wish to have me read them, Mr. Bashore, and then they will be presented?

COM. BISHOP: I think you had better read them because a lot of the people would like to hear them. There are some people that weren't here at the meeting this morning. I suggest that you read them and give the secretary a copy.

MR. MILLER: There are six copies there and we will prepare others if necessary. The first resolution is a generalized one and I will read it as follows:

"WHEREAS: Negotiations have been commenced concerning the allocation of the waters of the Colorado River under the terms of the Compact, by the formation of the Upper Colorado River Basin Compact Commission.

"THEREFORE: Be it resolved that the Green River Basin Development Company is in entire accord with the aims of the Commission and urges that a Compact be ratified at the earliest possible time."

The second one:

"WHEREAS: The Secretary of the Interior has publicly stated that he is opposed to further construction and development in the Colorado River Basin until such time as agreement has been reached among the upper basin states concerning the division of the water under the terms of the Colorado River Compact.

"THEREFORE: Be it resolved that the Green River Basin Development Company in annual meeting assembled hereby endorses the position taken by the Secretary and hereby opposes all construction and development and in addition in order to make the recommendation equitable, resolves that whenever possible that disbursements of funds on existing projects be withheld until such time as a Compact is ratified by the upper basin states."

In other words, we are anxious to see this thing proceed and to this end our company has adopted this resolution.

COM. WATSON: Mr. Bishop, is a question in order?

COM. BISHOP: Yes.

COM. WATSON: Will Mr. Miller please explain to this Commission what the mineral trona is?

MR. MILLER: As I understand, Mr. Watson, it is a double carbonate; it is sodium carbonate and sodium bicarbonate mixed and in what proportion I am not able to say at the moment. Just to explain that a little further, we have another material in this area which is the mineral they call leucite and leucite is a silicate of aluminum and potassium; and without going into the details of this proposed process, I think it is contemplated that by the

combination of this material, leucite, with the trona, profitable development can be made in the chemical industry in this area.

COM. BISHOP: Are there any questions? We would be glad to have any of you ask questions. I wonder if there is someone here from the Lyman project who can tell us why it is going to be beneficial. Will one of you gentlemen do that? These gentlemen here would like to know some of the needs of you people in the Basin.

MR. E. R. HAMBLIN, FORT BRIDGER, WYO.: My name is E. R. Hamblin.

COM. BISHOP: You are a water user under the Lyman Project, are you?

MR. HAMBLIN: Yes, sir. I don't know what I could say. Most of us delegates down here represent quite a farming district up there, that is, a ranching district. Most of those are old ranches. They were originally farms and found out it was better to use them as ranches so they have been growing grass and steers since, and as the years go by, why, the water is being taken away from us.

I remember along about 1920 we went up with teams and scrapers and started some little reservoirs and started a rather large one and we had it completed to a certain extent. But it seems as though that was a nuisance to some of the bigger companies, that is, the railroad and the Standard Timber Company, and it interfered with their ties and they blew that up. So there were some small reservoirs built and we are using those, but they are not adequate.

Now we got our stock in off of the range and this year and other years we raised a fairly good hay crop, but our carrying capacity would have been almost double if we had had pastures to turn them in on. I think we should have had one more irrigation.

Now in asking for another irrigation for our land we don't feel that it is going to take a lot of water out of the Green River Basin because the run-off in recent years is getting bigger and bigger all the time out of the Valley back into the Blacks Fork. It increases every year. Well, if we just have one or two waterings, that will dry up and Blacks Fork will dry up, too, in a certain part of the year, dry up completely. That is just a natural consequence. Water seeks its own level and when we spread it out over that land, it isn't destroyed. It isn't gone. It keeps on coming down and finally gets down to Lee Ferry even if we do use a little of it.

Now most of those farms have long standing; they have been used a long time. My father came into that country because he thought that there was a plentiful supply of water, which there was at that time. But as the people began moving in and began to allocate the water, the water was being cut down all the time until finally his land wasn't worth so much as it was.

Now myself, for instance--this is just a little incident but it applies to a lot of the rest of my neighbors--I developed a ranch in the center of the Bridger Valley, not a very large ranch but a ranch just the same. When I started that ranch I did have a plentiful supply of water for my requirements at that time but they have been cutting me down all the time. So we saw the need of reservoirs. There were plenty of good sites. We started those reservoirs, but it seems as though the Government stepped in and says, "We will develop these for you." Well, that was fine with us, so we sort of let the Government take hold.

Well, there was so much red tape we formed a little group up there and made applications and the applications were approved, and now the water is being taken down to develop countries in the Lower Basin. We don't feel that is fair. We moved into that country in the early stage of development, spent our lives there with our families.

Now myself, for instance, I raised a rather large family and we contributed to the development of that land very sincerely. We made our home there. I raised some boys. The war came along. The Government took the boys, and of course those boys were really ranch raised. They were well educated. The people in that valley are education minded, and we, along with the rest of them--that was our main aim, to educate those boys. While they were in the University they took them away from us. It was all very well. We thought that was good. Now those boys have had a lot of experience, they had a good education and they have been practically all over the world, I might say, but their minds are still on the ranch and that is home to them.

Now if those boys have to come back to a dry country, what are you leaders going to say? How are you going to answer if they are taking their water away from them? We feel that that is our water and somebody, if it is taken away, has got to answer for it. You can make all the records you want but you have got to answer to those boys, and all we are asking is just our share of what really belongs to us.

COM. BISHOP: Would you mind telling us what this 160-acre limitation might do to the people over there?

MR. HAMBLIN: Yes, sir, I certainly would like to answer that. Our district is a rather high elevation, and true, we can raise lettuce and we can raise radishes, too, just as good as they can in Imperial Valley or any place else, but we don't feel it is profitable.

Now take one of my boys, for instance. He can operate a ranch of 320 acres most of the year around--most of the year--and he can develop a lot of good beefsteak and a lot of wool, more wool and beefsteak than the value of any radishes down in Imperial Valley, more value, and the Nation would gather more taxes, too.

And so we know that--you know too--that 160 acres for a ranching country is just out of the question for us. We contend all the time that that water isn't lost because we spread it out on those meadows. It isn't gone. And just 160 acres, why, if you confine us to 160 acres, you will kill the Bridger Valley. We might have a little oil later on but it will kill the beef and the wool.

COM. BISHOP: I believe I should explain for your information that the people of the lower valley haven't taken your water. The Colorado River Compact allocates 7,500,000 acre feet of water per year to the Upper Basin and to divide this water is what this Compact Commission was formed for. It is their business to divide this water and see that Wyoming gets its share. To date there is no one taking any of Wyoming's water. We have used all we can and they have used all they can in the Lower Basin and some 12,000,000 acre feet runs on into the Pacific Ocean.

MR. HAMBLIN: I grant you that but I understood from the conversation this morning it is also a fact that if we deliver 7,500--is it?

JUDGE FRED E. WILSON, NEW MEXICO: Seven million five hundred thousand acre feet.

MR. HAMBLIN: Well, anyway, it is more than we can deliver every year. We guarantee that? Is that a fact, we guarantee that much down there?

COM. BISHOP: We guarantee 75,000,000 in each continuing ten-year period.

MR. HAMBLIN: I don't believe we can do it.

MR. THOS. W. JENSEN, UTAH: Have you got that much in the Blacks Fork?

MR. HAMBLIN: Well, if we spread it out and were conservative we might have. (Laughter.)

COM. BISHOP: Would any of the rest of you from over at Lyman like to have something to say?

MR. CARL P. DAHLQUIST, FORT BRIDGER, WYOMING: I might add to Mr. Hamblin's statement concerning our water over there. It is a case over there of early runoffs. At the time we need our waters they are gone; and our only means of staying in that valley is to have some place to store the water so that we may use it when we need it. I believe that would be about all.

COM. BISHOP: Do you have something you want to say?

MR. OSCAR W. DAHLQUIST, MOUNTAINVIEW, WYOMING: Yes. I am like these other men; I think we need to conserve our water. Our water runs off too early in the spring and at the time of the growing season we haven't got any. We should have a place for it to be stored. And furthermore, if we have our water there, it gives our young men a chance to stay in the Valley and gives them something to build to.

MR. JOHN W. FIELD, LYMAN, WYOMING: I have had a little experience up there with the water and I would just like to say this: that when we first came there, as Mr. Hamblin said, there was water enough for the users that were there; but since that time appropriations have amounted to enough now that there is only half of the season or a fourth of the season that anyone draws water.

Of course there isn't any storage and as the water falls in the River, it runs off. This year there are somewhere around 600 feet in Blacks Fork appropriated and the River hardly supplied 300 feet, and a foot for every 70 acres in that sandy, gravelly country there will not irrigate it. It's just insufficient.

That's all I have to say. That's the condition, that there are only half of the people in that Valley now drawing water sufficient to make a crop. This year the crop fell down 50 per cent or better due to the early rise; of course, part of the crop was saved.

COM. BISHOP: I believe at this time it would be well for Mr. DeLong to explain what the plans of the Bureau are for this particular project.

MR. PALMER B. DeLONG, BUREAU OF RECLAMATION, KEMMERER, WYOMING: The plans for the Lyman Project as outlined in the Colorado River Report include the furnishing of supplemental water to nearly 21,000 acres of what we call Class 1 and 2 land. We have decided that a capacity of 30,000 acre feet in the Bridger Reservoir on Willow Creek would furnish enough water for this purpose. However, since the writing of the Colorado River Report, we have

continued our studies further on the Lyman Project and we hope this winter to come up with the detailed project report which may change that plan a little bit.

For example, we have since the Colorado River Report completed a detailed classification which will change the acreage of what we call Class 1 and 2 land and may change the setup a little bit. However, in considering the Lyman Project, we are considering it from the standpoint of a livestock economy and not from the standpoint of growing cash crops or lettuce or radishes, as Mr. Hamblin suggested.

I feel quite encouraged about the Lyman Project and I think that we are going to be able to work something out that will be satisfactory to the Lyman people as well as everyone else.

Are there any questions? Is there anything that you would like to discuss further, Mr. Bishop?

MR. HAMBLIN: Mr. DeLong, there has been some confusion about this classification of the land. Of course a lot of that valley is cobble rock, but it is growing good crops; and some of those meadows have been growing since 1822 and are still growing good crops.

COM. BISHOP: 1822?

MR. HAMBLIN: 1822.

MR. DeLONG: I believe according to our records that the first irrigation was in about 1860, Mr. Hamblin.

MR. HAMBLIN: What about the fort at Bridger, and Fort Supply? Of course, Supply was later.

MR. DeLONG: 1822 was pretty early.

MR. HAMBLIN: You will have to prove I am wrong.

MR. DeLONG: We agree that your meadow land, your pasture land there, has some very good soil. However, as I mentioned to you this morning, there is a restriction on that kind of land that forces us to throw it out of what we call Class 1 and 2, the lands that can be cultivated. For example, as you mentioned, it is full of cobbles on the surface and it is not possible to plow it.

However, we do recognize the fact that it is good soil other than that and can grow very good grass crops, and it is our responsibility to recognize the value of that grass, as you mentioned--your livestock, beef and sheep, and one thing and another--and we recognize the problem there in that way.

COM. WATSON: Mr. DeLong, the return flow on that type of land would be very large, would it not?

MR. DeLONG: Well, as they mentioned, the soil is fairly sandy and gravelly, and it requires a good diversion. However, the consumption is low, as you recognize from the altitude and the type of crop. The return flow is good, yes--some irrecoverable losses, but not many.

MR. VAN A. RUPE, LYMAN, WYOMING: You spoke about a revision; did you mean downward or upward in the acreage?

MR. DeLONG: If there is any revision in the Lyman Project it will be upward.

COM. BISHOP: You want to ask a question?

MR. HAMBLIN: Maybe I could give you an illustration. I don't like to take your valuable time, but I would like to give a little illustration.

I was President of the Uinta County Farm Bureau for sometime and at that time there was a lady who came from down in the lower Colorado River district, and of course she and her husband looked me up and stopped there over night. He was rather a livestock-minded man although he had been growing row crops. He had an investment of about \$40,000 down there in that country in land besides his machinery, an enormous lot of machinery--I don't just remember how much.

But anyway, he helped me feed my cattle and do my chores. Then we went out the next morning on Farm Bureau business, and that night he was comparing my means of income with his. I didn't have quite that big an investment in my layout there, but he was pretty good at figures and he sat down and he figured for an hour or two. He figured all my income, what little I had off my ewes and how much I had off my cattle; of course at that time my wife and I weren't milking very many cows but we did have a little income on cows. And of course we had our chickens, too--my wife always has to have chickens whether we go behind on them or not. (Laughter.)

And so he was figuring on the income off of my investment. "Why," he says, "I have got almost double the investment you have got and my wife put in over two months hoeing beans." Well, my wife never did hoe beans. It is very few times she has milked. Anyway, he was comparing his efforts he put in, he and his wife, and the efforts of me and my wife, and then their income. He was a lettuce man and so on. "Why," he says, "you can produce more for the money invested than I can besides the effort we have to put in." So why send that water down to them? (Laughter.)

COM. BISHOP: Is there someone here from some of the other projects that would like to be heard? How about the Eden Project? Mr. McGinnis, would you like to be heard? Come up here where we can look at you and hear you.

MR. WM. MCGINNIS, BURNTFORK, WYOMING: I am a very poor orator. I have lived in the Bridger Valley that I have heard Mr. Hamblin talking about here. I lived in Bridger Valley for several years. I moved from Bridger Valley to the Burntfork district and I have lived there 34 years. When I first went to the Burntfork district there was an abundance of water for the entire land but there was a new settlement that soon consumed the water and we have been more or less shy of water for a good many years.

I had a family of small children, worked various ways, and wanted to get out of it and my wife says, "No, we can't go with these children to a different place." I said, "We have got to get water." She says, "Go get it." I said, "How are we going to get it?" I began studying and spent a good many nights without sleep. Finally I decided to see what could be done so I go to Green River and see Mr. Evers. Bill Evers was Commissioner there.

I was getting poorer and poorer every year. Our altitude out there is 7,125. We raise wonderful stock. When we have moisture, the grass is good and the range is good. If we have water enough we raise an abundance of hay; we raise any amount of small grain. But when we haven't any water, our

holdings are absolutely worthless. Consequently I got in so I couldn't move away, bringing about almost separation with my family moving, so I began to hunt for water.

Mr. Evers and I talked together and he said, "I will help you out." He would do what he could. He takes me and we go to Cheyenne. We look around. At that time I don't believe there was scarcely any reclamation; such things as that were just getting started in places, but at least he stayed with me. He is a good Indian. And we worked that out and finally we have no place to build a reservoir, but eventually we found one where we could build one, but it is quite expensive. So we worked around until we got Government aid and we built a reservoir and we have had quite a little bit of trouble getting the amount of water that would suffice us to the reservoir. We are a poor lot of people and we couldn't quite finance those things.

But as to our location, we haven't water enough as there is more and more development and more land to be developed, that should be developed. We have the one reservoir now. That is a wonderful thing; there is no question about it. It is a wonderful thing. It has been quite expensive but then at the same time it is worth while, and yet we haven't water enough. We are shy on water.

But there is what they call the Big Basin, it is in Utah, and it will hold an awful lot of water; and through the development of that water from Henry's Fork, the Beaver Creeks and other tributaries, why, there could be a wonderful reservoir made and it would supply that country together with much arid land in the lower country, down towards the Manila country and in that country down there, and also a lot of it can be carried over to benefit those people in the Bridger Valley or around the arid lands in that country near Granger, and so on. If I am not mistaken, it has been allocated for 122,000 acre feet or something like that. Well no doubt it would take some time to fill all that but the runoff in the spring as a rule is immense.

Well this water goes down, it gets to where it goes to Lee Ferry or wherever somebody must get the benefit of it. But at the same time, the way I look at it, all stored waters in these upper regions, when they are utilized and used, they help to maintain and supply the demand at Lee Ferry and all lower areas.

Our country for raising stock, sheep and cattle, is hard to beat if you put the moisture on the ground, but without that that country isn't worth very much. Now I don't think that any other is as far as I am interested. I believe that if we could get the right support and get this into a reservoir that it would assist the people over in the Lyman area. It would irrigate an awful lot of arid land and supplement a lot of already water users. They would be successful. It would be a great country.

We have had some awful droughts out there. It was almost impossible to live through them unless you were pretty well financed, which I have never been. I have gone through it all, know just about how it is, and I think the entire community out there will bear me out that if we can get the amount of water that is needed it will also help maintain the resources and also build up a wonderful country. In dry years our arid grounds were no good. When we can put the water on them, we can raise grasses, hay, or anything. It doesn't make any difference whether it is a rock pile, where you can get the moisture you can get production in that country. I don't know about these lower countries. I have been down there, too, but I didn't live down there and cultivate them and so on.

I think a lot of our country and I want to see it supported. We have

additions there on both sides that I think should be supported. A reservoir like that would not only support that but it would make a wonderful difference in our building up of our wonderful West, which would give us all more land. The boys, the G.I.'s and so on, could many, many, many of them have homes and places to live where today, with the housing situation, it seems to me they are taking them all to the cities. What are they going to do when the cities are filled up? Where are they going to get their production from?

I am kind of lost; I am wondering what they are going to do. In all these cities they have plans going on but nothing doing to make production. I think the production is first and then we might have something to rely upon because we have got to have something to eat and wear.

COM. BISHOP: Thank you, Mr. McGinnis. Mr. McGinnis has been in a part of the country where he is very close to the Utah State Line where the Utah fellows have the "higiority", not the priority, where they help themselves. Mr. McGinnis was water commissioner for a few years and he knows the situation over there.

MR. ORSON N. BEHUNIN, BURNFORK, WYOMING: There is just a little I would like to add to that about our climate out there. We are 7100 feet and our country nestles under the leeward of the Uinta Mountains. We have one of the nicest climates in the world for that elevation. Very, very seldom in winter-time does our temperature reach ten below zero at night, and even those few nights that we get ten below zero weather, in the day-time the sun comes out warm and you can go out about your chores and feed your cattle without your coat on. Of course there are storms and we do get some cold weather, but it is very rare.

Therefore, our livestock doesn't require the feed that they do in some lower areas where they get the cold weather. The fog will settle down over this country and the temperature will run down to 30 below zero while we are sitting out there above the clouds without any cold weather, and we do have a very fine climate out there and we do produce some very good crops.

I think that we do need water awful bad. There is once in a while that one of us will get so mad we will strap on our gun and go up the river. We don't find our neighbor stealing water and we go home and put the gun away. We haven't killed anyone.

COM. BISHOP: You don't go over to Utah any, do you?

MR. BEHUNIN: We put one of those guys in the ditch, dumped him in three times in one day. (Laughter.)

MR. MELROY LUKE, MCKINNON, WYOMING: There is just one more thing I would like to add; I don't know whether it will be beneficial or not.

Our country out there has an awful lot of slope from two ways into the Henry's Fork Creek part and although we have a lot of rocky formation underneath the surface in places and it takes a lot per acre for the surface, it sub-irrigates below, and as it goes on down the country, I don't believe it draws or holds back too much water out of the lower country or the Green River regular stream.

We have three reservoirs out there at the present time and all those reservoirs combined don't furnish enough water to irrigate the ground that is already under cultivation. As we get on down to this sub-irrigation, those fellows are getting more irrigation water through their lower streams than we people on the upper streams, so I don't believe that your irrigation on

the upper part will deprive the people in the lower valley.

COM. BISHOP: Thank you, Mr. Luke. Mr. DeLong, I wonder if you would mind giving a short description of the Henry's Fork Project and the Big Basin Reservoir.

MR. DeLONG: The Henry's Fork Project as set up in the Colorado River Basin report includes 21,090 acres presently irrigated land to receive supplemental water, and 9,190 acres new land to receive a full supply. The regulation for this plan will come from the Big Basin Reservoir, as Mr. McGinnis mentioned, built to a capacity of 107,000 acre feet.

This reservoir is filled by a collection canal that picks up water from Henry's Fork, Beaver Creeks, and Burntfork, and delivers it to the Big Basin Reservoir. There are outlets in turn which come from the Big Basin Reservoir and return the water back to where these lands can be served.

In addition to that under our plan for ultimate development it is possible to construct a service canal 30 miles in length and about 300 second feet in capacity from the Big Basin Reservoir to the Lyman area in Bridger Valley to irrigate an additional acreage over there of about 7,160 acres of new land.

COM. BISHOP: Thank you, Mr. DeLong.

COM. STONE: Mr. Bishop, may I ask Mr. DeLong a question?

COM. BISHOP: Yes.

COM. STONE: Mr. DeLong, you are familiar with the Eden Project?

MR. DeLONG: Well, yes, somewhat.

COM. STONE: That is a W.C.U. project, is it not?

MR. DeLONG: That is right, as originally set up.

COM. STONE: What is the percentage of completion on that project?

MR. DeLONG: I believe they estimate officially about 16 percent complete.

COM. STONE: Is that the project for which an appropriation was made by the last Congress for its completion?

MR. DeLONG: I understand that is correct; however, perhaps Mr. McMaster can answer that definitely. Was there not an appropriation made in the last Congress for the Eden Project?

MR. J. STUART McMASTER, BUREAU OF RECLAMATION, SALT LAKE CITY, UTAH: There was some money made available for W.C.U. and some of it I understand was earmarked for the Eden.

COM. STONE: There were two projects?

MR. McMASTER: The Mancos and Eden.

COM. STONE: And as I understand it--I want to ascertain whether I am right in my understanding--the amount of money made available was available for the completion of that project and Mancos, is that correct?

MR. McMASTER: That is correct.

COM. STONE: And as I understand it, it is not yet decided whether that money will be made available under the executive restriction orders?

MR. McMASTER: That is correct.

COM. STONE: But the Eden Project will go forward this next fiscal year or the present fiscal year if that money is released?

MR. McMASTER: If the money is released and construction work is permitted.

COM. McCLURE: Mancos is a Wyoming or a Colorado project?

COM. STONE: Colorado.

COM. BISHOP: Are there any questions from any of those from other parts of the country? Joe Budd, can you tell us what might be done to help your part of the country?

MR. JOE L. BUDD, BIG PINEY, WYOMING: Mr. Chairman, Members of the Compact Commission, gentlemen: I am from up in the Big Piney area west of the Green River. Our primary interest at this time is construction of the Kendall Reservoir. We have holdings on the western slope of the Green River.

At the present time and for many years we have been very short of water for the irrigation of the land which we now have. There are also thousands of acres of land in that area that under reclamation can be put into production. At the present time this land is capable of grazing about one cow for each 20 acres. This same land through the application of water can be made to produce three to four tons of alfalfa per year, or any of the small grains, oats, wheat or barley.

We are very concerned. We have felt all through these years that the development of the Colorado River has sort of been in reverse. In developing our ranches we have always felt it is beneficial to apply our water on the upper reaches so that water can be reused on the lower reaches. We would like very much to see the Kendall Reservoir constructed. As that is at the head of the River, the water can be used many times by the people in all the different states.

One of our major concerns in that area is the 160-acre limitation. Our economy in the Sublette County area is based on much greater acreages. There seems to be a misunderstanding, a feeling that water shouldn't be given for greater acreage because it isn't supporting enough people. Regardless of whether the land is in one man's name or ten men's names this land is still supporting the same number of people. Families must be employed to take care of the land in either situation. I might mention at this time that most of the hired men are making more than the owners themselves so perhaps it would be better if it was in larger holdings.

We feel very fortunate that we people of the Upper Basin have been given the representation on the Commission that we have. We have great faith in the Commissioners and feel that you will recognize the difference in our climate, the necessity of more land, and also the benefits which will be derived in the Lower Basin through use of the water in the Upper Basin. Thank you.

COM. BISHOP: Thank you. Mr. Budd. Carl Jorgensen, how about you?

Can you tell us what the development might do for your part of the country?

MR. CARL JORGENSEN, PINEDALE, WYOMING: Mr. Chairman, ladies and gentlemen: The way I look at this development it should begin at the head of the River like Joe Budd stated and work down stream. If this development is made, the return flow in the high altitude will be enormous and other development can go on down stream.

I feel that with this development it will add a great lot of wealth not only to our state but to the Nation, and our economists say, the way I understand it, that where there is one dollar invested in land or agriculture, it will support seven dollars invested in other businesses, and with that it is certainly a big thing to our state. And I feel that those other businesses that this original investment is supporting should help pay for the original cost of construction, which I think is necessary on most of these large projects.

Now the 160-acre limitation--I have seen many men trying to make a living and they did exist on 160 acres. They raised a family but couldn't afford to educate them, at least not very well. They never could afford an automobile, and if they bought a piece of machinery they usually picked up something secondhand. You went to their homes; most of them just had an old camp bed they slept in, and coal oil lights. They never had running water; they never enjoyed a good bath tub. I think we should try to get that limitation increased so they could have decent homes and a decent living in this high altitude.

I think that is about all I have to say at the present time.

COM. BISHOP: Thank you, Mr. Jorgensen. Senator Grieve, will you tell us about the Little Snake River and what it might do for your part of the State?

MR. LEELEND U. GRIEVE, SAVERY, WYOMING: Mr. Chairman, our development seems to be pretty slow on the Little Snake River, but for a long time I have asked for exactly what is happening here today. I think I wrote the resolution asking for the division of the water, and of course the reason I did that was the fact that I live down on the Colorado Line where the River crosses that line sixteen times in eighteen miles, and I felt that if the West was going to develop its water, we ought to break down this attitude of indifference.

I think that now that this fine group of men have gotten together that we have broken down that attitude of indifference and that we are going to go a long ways in developing not only my valley but the other valleys and the other states of this western country of ours.

I am very happy to be here today. I haven't any interest in water; I have all the water I want. I am only here in the public interest and I am glad to see the rest of you gentlemen here and I know that your work will be successful.

COM. BISHOP: Thank you, Mr. Grieve. Anyone else that represents some other project now? I don't know all of you gentlemen.

MR. GRIEVE: Mr. Chairman, some of you gentlemen say, "Why don't you sell that place?" I built those reservoirs a long time ago with my own money and that's the reason I have got the water. (Laughter.)

COM. BISHOP: Platt Wilson, how about telling us what the development would do to the Hams Fork area around Kemmerer?

MR. PLATT WILSON, KEMMERER, WYOMING: I might say our position over there is a good deal the same as with your other ranches, we have plenty of water in the spring and it peters out in the summer. You have heard that story and it is pretty much the same all over the country. I happen to come from the west part of the Valley. The creeks in our vicinity are the LaBarge, Fontenelle, and Hams Fork.

We of course are interested in the development of the areas that can be irrigated in that vicinity. But as a businessman, I might say that I can speak for other businessmen as well as for the ranchers in my community in saying that we not only in our town but in Rock Springs and in Green River are interested in the development of the whole valley, the whole system as a whole. We want to see the development of the Seedskaadee, the West Side, the East Side, the Lyman. We also want to see the Big Reservoir at the head of the River built so that we will have an economy out here in our country that will be stable and something that we can depend upon.

Now to get that, we have got to get together with the Commissioners of the other states and get an agreement as to the division of the water, and if we can hasten that agreement, we want to do that very thing.

We are not only interested in the development from an agricultural standpoint but we are interested from an industrial standpoint. My town happens to be a coal town as well as this town. We are interested in the future of coal, what can be made from coal not only as a fuel. We are interested in liquification plants. To have those things we must have water. If we are going to have industry in this part of the country to develop our natural resources, we must have water. So whatever we can do to hasten the division of water we want to do.

Now I don't know whether just telling you what our ills and our needs are helps you fellows to get together on the division, but that is what we want. The quicker you can get at it the quicker we will be getting some place, because as Mr. Krug has said and the Commissioner of Reclamation that they do not favor any further development in the Colorado River Basin until we agree, it is up to us to get together and agree on a division.

Now, you not only have to agree on a division among yourselves as commissioners, as representatives of the states, but the Compact has to be ratified by the legislatures of the different states. So I say that time is an essential element here. We want to get together quickly because it is going to take a long time at best. Most of our legislatures meet this next winter. I doubt very much if you gentlemen can form a compact that can be brought before the legislatures of the states in time for their meeting.

COM. BISHOP: Thank you, Mr. Wilson. How about you, Mr. Reed; would you like to say a few words about that same part of the country?

MR. JOHN A. REED, KEMMERER, WYOMING: I think, Mr. Chairman and Members of the Commission, that our ills have been pretty well aired. I think those of us who are primarily interested, perhaps, in the Green River Basin have a much deeper interest to the people of the State as a whole.

As you know, Wyoming has been pretty good to her sister states in the distribution of water. The Green River is about the only stream we have left with suitable area for development where we feel that we do have some water. And I think that we feel very deeply, I know I do, and my friends in this particular area likewise feel that we must have an equitable distribution of the Green River water.

Wyoming needs some development. Most of you are familiar with the area around Douglas, Wyoming, along the Platte River. There isn't a better agricultural area in the entire intermountain area, Colorado, Utah, or any other section, and yet look at it today. That is because we were perhaps asleep sometime or other with our development and lost our water or gave it away.

Now I don't think we want that to happen in this particular Green River area. I think there is enough water. Maybe we have been a little too liberal thus far below, which at this particular time makes it necessary for us to get busy and work out an equitable distribution of the water of the Green River. And that's all I think we are interested in and I think we have waited long enough because some of you have some development pretty well on its way and we in Wyoming feel that we are ready now, we want to go.

I don't agree with Platt Wilson. I think there can be an agreement reached between now and January when most of these legislatures meet so this can be taken care of. I think it should be. Two years, unless we go to the expense of calling a special session, is entirely too long to wait.

COM. BISHOP: Thank you, Mr. Reed. Mr. Jacobucci, would you like to say something about the Seedskaadee Project? That is near your town.

MR. J. H. JACOBUCCI, GREEN RIVER, WYOMING: Mr. Chairman, thank you for the opportunity of saying something. I couldn't say anything new. I would like to emphasize more what Mr. Reed and Mr. Platt Wilson said about the necessity of hurrying up the division of water. As a farmer I can't give all the information Mr. Hamblin and these other fellows gave us.

I have a farm in Colorado and to that extent I kind of favor Judge Stone's activities in getting most of the water for Colorado. (Laughter.) However, I have been a resident of Wyoming for nearly forty years now and my principal interest outside of the electric utility and water utility business I am in has been in trying to get something for this valley outside of the railroading and coal mining we have, and we must try to develop something in the way of agriculture.

Since about 1916, our senators and congressmen every election come along and tell us how bad we needed the development of the Green River Basin and our lands up the River, how much useful land there was that could be irrigated and how soon we were going to get it. But after election it died down for another two years, and that has happened for more than thirty years.

I think we have come to the point where we just must assert ourselves with these Colorado and Utah and New Mexico people and must ask that some action be taken on the division of the water, and that's been the subject that we have discussed here at least the last four or five years. We have gotten in jams about it. We have gotten in a good many arguments with our state people and others, but we are still rather slow in trying to get at this division.

If I can give my opinion in front of these Colorado and Utah people, I think there has just been pretty much of a deliberate action on their part to defer the division of the water because fortunately, their good congressmen and senators and judges that they have have succeeded in getting nice appropriations of water and more water and appropriations of money to develop them; the nice, large Colorado-Big Thompson Project in Colorado, which Judge Stone has great credit for developing, is a credit to them and to Colorado, but we have nothing here in Wyoming yet.

They went along on the argument that they had to develop something when these soldiers came back. When they come back we have to have some land for them. We showed them we have 45,000 acres of the finest Class 1 land in this valley only a few miles up the River. It is lower than what these other people have spoken of, although I don't try to hold back their development, but the development we have on the Seedskadee Project is a development of forty-five or fifty thousand acres of first class land that can be irrigated at a cheaper cost per acre, can be developed and put in the hands of these soldiers we talk about.

You know all this lip service to the soldiers, what we were going to do with them when they came back, it was all beautiful. They just took all that to heart as if it were true. They have been back a year or year and a half and no soldier has much of an idea whether the Seedskadee Project is going to be developed in the next six months or next 75 years. It is a project that with a very small diversion dam can be developed and 400 families put on the project and make a living. There are soldiers and there are other people waiting to develop that land.

Now why all that delay I never have been able to see. One has one reason and one has another, but most of the reasons are just a matter of delay and delay. Let's get these Colorado and Utah people--and I don't know how much resistance there is in the New Mexico people--but let's get them together. Let's impress upon the people we have here today that the urgent thing is to divide this water among the states so we can go ahead with some development.

I didn't particularly like the resolution this morning. I think they are fooling the Wyoming people. I want to call that to the attention of the group here because we as a Green River Valley association were trying to expedite this division of water. I don't think we did that. I think the resolution that we passed approving Mr. Krug's idea of delaying things, delaying these developments until the division is made, is just all in favor of Utah and Colorado.

I think that the delay is only with these projects that haven't started. While we did put in the resolution that we favored stopping all projects, we know those projects that have appropriations, like Big Thompson and some of these others which have appropriations made to go on, they aren't going to stop. They are going on with that development. And naturally the more they go on with that development, the better it is to their interest in dividing the water of the Colorado among the four states.

So I would like to impress on our people here and the Commission that the urgent thing is to divide the Colorado River water among the four states so we can start in with our own development. Six months after this division is made and they let us go ahead we can have a project going on with just a small diversion dam and that 45,000 acres waiting to be developed and 400 families to get on there.

COM. BISHOP: Thank you, Mr. Jacobucci.

MR. WM. R. WALLACE, SALT LAKE CITY, UTAH: I very much dislike that reference to the State of Utah inasmuch as I think the records will show that Utah proceeded and urged the division of this water before Wyoming did.

COM. BISHOP: Mr. Wallace, I don't want to argue with you on that point but I do disagree with you; but we won't argue that point. Anyone else?

MR. NORMAN W. BARLOW: Our Basin Company has an Executive Manager; I don't know whether you have overlooked him or not. I wish Mr. Jenkins would state his position as manager of our company.

COM. BISHOP: All right, Mr. Jenkins.

MR. PERRY W. JENKINS, EXECUTIVE MANAGER, GREEN RIVER BASIN DEVELOPMENT COMPANY, SALT LAKE CITY, UTAH: Gentlemen, I don't know just how to begin on this matter. I wish to say that I probably can speak for our people more or less as I have been here for 41 years and helped to bring upward of 15,000 acres under water and have seen this country grow.

Now with reference to the economy of the situation I will say that of the first 300,000 acres that have been watered in the State of Wyoming it has cost less than \$10.00 an acre, and the returns upon that has been so much greater than any of these other places where the high cost per acre is accountable, that it just isn't worthy of mention.

Some years ago I was instrumental in creating a county that occupies the whole upper end of this valley. The border of that county runs right around the top of the catchment basin, so it is a very large, integral part of the Green River Valley. That was made a county in about 1922 and in the first ten years the valuation of that county grew until it was the richest county per capita in the whole Rocky Mountain area. I say that without dispute because you can look over the tax rolls. The per capita valuation for every man, woman and child in that county was \$3,700. Can you beat it?

It didn't cost much to irrigate this land. We have thousands and thousands of acres that can be irrigated so cheaply that the returns are out of all comparison of these high costing properties. That is what these boys have been trying to tell you. It hasn't cost much and therefore we believe that we can take what water belongs to this state and we can create bigger returns on that than any other place in the Valley.

Now you people that sat in that old convention that adopted the Colorado River Compact, you don't know what it was done for. The states down in the lower reaches of the stream were being developed more rapidly and what did we have to do? We had to adopt a compact so we could stop priority. Why, if we could have developed up in this country of ours up here, these four upper states, as rapidly or more rapidly than they developed in California or Arizona, there wouldn't have been a drop of water go down the Colorado River because it would all have been used by prior appropriation. But we knew that California and those Lower Basin States had the jump on us; they had the power in Congress. They had climate. They had settlement. They had everything and Colorado, Wyoming, Utah and New Mexico had to wait its turn for power.

Now we cut off all priorities in the lower reaches of the stream by giving them a block sum as payment, not for claims--they didn't have a claim--but in payment to keep still.

Now we are coming up to another condition up here. We have some states that are perhaps more populous and are growing more rapidly than others. The same inequality is brewing right here and we have to appeal somewhere in order to save the development of Wyoming for the future.

Why, some fellow said, "Why don't they pick up the people from some of these projects and move them to a more favorable place?" Let me tell you, gentlemen, the time is coming when this whole state will be settled just like Sweden. We are not living in Finland, we are not living in Iceland, but there are people living there and the time will come when every acre up here will be

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used to make homes for the people and then when that time comes, can they live there without water?

Now we have got to look into the future a little bit, gentlemen. We can't say that simply because we have got power to get the appropriation to transfer this water over to a given area where the power is, that we are going to take the water and forever stunt the state.

Do you people believe in the rights of states or do you want to monopolize this River? If you make it so impossible that we can get development in some near future, we will have to call upon the Federal Government to take a hand, that looks forward a hundred years in the development. I don't believe in that. I believe in the rights of states.

We have got a Constitution that says the water of the State being of easy diversion and necessary for the development of the State belongs to the State. I asked Dr. Mead, "What did you mean by that when you penned that?" He said, "I meant just exactly what I said here for every drop that falls upon the State of Wyoming, for every bit of snow that melts, that water belongs to the State and they have the right to use it forever and then if there is any more, they will pass it on to their neighbors." That was what Mead meant by the right of the State to the water.

But why is it that we lost that? Because of priority. Somebody away down used it first and then the courts decided it must go down there. Now if we adopt a compact that divides this water and Congress acts upon that compact, priority no longer will exist. It will be a state priority, and that is what we want. We want the priorities in the states.

I don't want to take anything from you people that belongs to you. All we ask is that we have our own, and don't point a finger of scorn and say, "In frozen Wyoming they don't need it," and so on. Oh, I have lived around in some of the other states; they have their drawbacks. Up in Wyoming we can produce more money for the investment than any other state that I know of. We don't have any poor. Why up there in Sublette County we only had three people--before the W.P.A. came in and brought people in from all over the country and dumped them on us--we only had three that were supported in any way by the County. We believe in letting each one have a little bit to live on and that is what we ask. Don't look upon us as grasping.

Here is a thing for you to understand: We can't ask for more water than is produced in this state. How would we get it here? We are just out on a limb. You fellows are going to shake it? Oh, no, you have a bigger heart than that. If we were to say that we needed more than so much to develop our state, we couldn't run a canal up in here and carry the water from way down there. We have to be content with what water our state produces, and so we feel that you ought to have a heart and not steal our ewe lamb--I won't explain that story, you all remember that Biblical story, the ewe lamb.

Gentlemen, I want to say that what we want first--now I am talking for the water users--what we want first is storage capacity in each of the states to be able to supply in case of deficiency our obligation at Lee Ferry. I can't say how much water we want because I don't know how much you are going to say we have to deliver at Lee Ferry. I can't say that we will be satisfied with a million acre feet of water and then find out that in the turmoil and in the end you have taken it all and Wyoming has to furnish 8,250,000 acre feet. We can't tell how much water we need until you have settled the question. It is going to be up to you to settle the question, on what basis shall we divide the obligation.

We are all alike in this. We have signed a promissory note. Wyoming, Colorado, New Mexico and Utah have signed a promissory note that we will deliver 8,250,000 acre feet of water at Lee Ferry. And John Reed will tell you what a promissory note is without any trouble: The fellow that defaults, he doesn't pay anything; the next fellow that defaults, he doesn't pay anything; but the last fellow that has anything, he foots the bill.

We don't want any promissory note of that kind, so, gentlemen, let's first decide upon how much we have to pay at Lee Ferry: How much New Mexico will have to deliver and how much Colorado will have to deliver and how much Utah will have to deliver down there, and then we will begin to talk to you how much more water we can use up here.

Now I don't want to talk longer. I just wanted to say that I felt I really had a right to present some of these facts. But here is a thing that startles me, and I don't know, possibly you. I waited rather impatiently until the first ten years of the delivery of water was measured at Lee Ferry. Up to date the Federal Government hasn't provided a bit of water in the State of Wyoming. We don't have any projects, none at all.

We have got up there in the Cora county where my neighbors live a project which I superintended. It impounds 30,000 acre feet of water. It costs us \$2.00 per acre foot. And we built it ourselves. The Government didn't help us. We taxed our own people and built a dam that impounds 30,000 acre feet for \$22,700, and we paid for the cost of the dam when we got through with the contract. You see what we can get out of the water. We can get an acre foot of water for an acre for \$2.00. Can you imagine?

Now don't say that water is useless in this high altitude. That is at 7,000 feet above the sea. Joe Budd just talked to you. I just happen to know that he contracted the sale of four steers--oh, they will weigh possibly a thousand pounds--at 25 cents a pound. Just think of it! Four steers raised up there in that God-forsaken country, he gets 25 cents a pound and they weigh a thousand pounds apiece. I say you people can't match it. Tom, you can't match that.

COM. MCCLURE: What did he get for them in 1933?

MR. JENKINS: Why, we have a way among these ranchers, we have a way that we spread our profits and losses over a period of years. We will have our lean years and we will have our flush years. If Joe can spread his sales over the lean years when we had W.P.A., P.C.Q., and all that sort of thing--if he will spread that over you will find that Joe makes just a fine profit every year.

Now I am not going to say any more.

COM. BISHOP: Thank you, Mr. Jenkins.

MR. MARSHALL SMITH, WYOMING: I would like to direct your attention to the samples of grain grown in Eden Valley at higher altitudes than any other development in the Green River Basin. We had plenty of water.

COM. BISHOP: Anyone else like to tell about what development might do to their part of the State? This is the time to speak up, gentlemen.

MR. DAVID P. MILLER: I don't like to take up a lot of time but I wish to call the attention of the Commission to certain remarks that have been made about the Burntfork and Bridger Valley. I have been an administrative official for the State of Wyoming for quite a number of years and I am rather in

a position to know where these shortages exist and how it affects the economy of these people.

This northern slope of the Uinta Mountains from whence these streams arise is rather deficient in snowfall and these people are short of water almost every year. We have made a determined effort through the Bureau of Reclamation to develop work on the Lyman Project and to a smaller extent on the Burntfork Project. But I wish to impress once again the urgent necessity of early development upon this particular area because these people have suffered more and suffered longer than any comparable area in this part of the State of Wyoming.

COM. BISHOP: Thank you, Mr. Miller. Anyone else?

MR. DeLONG: In regard to the Lyman Project, we are just completing some water supply studies that are quite revealing; I would like to mention them for your information. In the period from 1925 to 1945, the average shortage for 40,000 acres at Lyman is about 45,000 acre-feet. Some years, for example 1934, that went up as high as 80,000. There is possibly a 125,000 acre-foot diversion requirement.

COM. BISHOP: Thank you, Mr. DeLong. Mr. Hitchcock, would you like to say something? You have been active in trying to promote these projects.

MR. ERNEST B. HITCHCOCK, ROCK SPRINGS, WYOMING: Mr. Chairman, I don't have a great deal to say. I have attended all these Compact meetings to date. I feel as John Reed from Kemmerer does, we want development in Wyoming and the quicker we can hurry up the Compact the better off we will be.

I know when we started off the meetings, the goal was to be to have something to deliver by the 1st of January so the state legislatures could take it under consideration. Progress hasn't been too fast. We are hoping there will still be a possibility. Nobody knows, of course.

But the main thing we are interested in in the Green River Basin is to get this Compact formulated so we can get some authorization and eventually some construction. That is about all I have to say, Mr. Chairman.

COM. BISHOP: Anyone else?

MR. PLATT WILSON, KEMMERER, WYOMING: I have been to a number of water meetings and they nearly always wind up in a fight, a disagreement. I think the main reason is because every other fellow mistrusts the other. He is afraid he is going to get away with something he is not going to get.

Now what water meetings I have attended in the Basin have been small ones along individual streams among ourselves. This is probably the biggest one I have ever been to but I imagine the same trend of thought is in our minds here that would be in our minds if it was out on Fontenelle to divide up that water.

Let me say this, that while we are in a hurry to get a compact, I think we want to do it as quickly as possible, but it is absolutely necessary to get a fair compact because if you don't get a fair compact it will never be a compact because each legislature has to pass on the compact before it becomes a compact. Now if it is unfair to Colorado, the Colorado legislature will not ratify it, and so it is true with all the rest of the states.

I urge you fellows to get together and put your cards on the table

and be as fair as possible so you can prepare a compact that will pass.

COM. BISHOP: Thank you, Mr. Wilson. Anyone else? If none of the rest of you have anything to offer I would like to read a portion of my last memorandum to the Governor with reference to the Bureau of Reclamation report. I am quoting from this memorandum:

"We desire to emphasize our remarks with reference to the Initial Construction Program proposed in the 1945 Draft of the Colorado River Report; Pages 13 to 17 inclusive mentioned in our Memo of December 14, 1945.

"We believe this program is sound and that it should be included in the final draft of March 1946. In any event we endorse the Initial Construction Program mentioned therein as our definite recommendations for Initial Projects for Wyoming. Specifically these projects and the ultimate depletion contemplated by them are:

"SUBLETTE PROJECT:

West Side Unit - 29,050 acres of new land.	
Estimated depletion at 1.4 acre feet per acre	40,670 AF
37,000 acres supplemental supply	
Estimated depletion at 0.7 acre feet per acre	25,900 AF
Daniel Unit - 5,160 acres of new land.	
Estimated depletion at 1.4 acre feet per acre	7,224 AF
Elkhorn Unit - 134,030 acres of new land.	
Estimated depletion at 1.4 acre feet per acre	187,642 AF
Seedskaadee Unit - 40,830 acres of new land.	
Estimated depletion at 1.4 acre feet per acre	<u>57,162 AF</u>
Total Estimated Depletion for Sublette	318,598 AF

Kendall Reservoir - We also recommend construction of Kendall Reservoir in the initial program as its storage will be needed for some of the Units of the Sublette Project.

"EDEN PROJECT: - 20,250 acres new lands.	
Estimated depletion at 1.4 acre feet per acre	28,350 AF

"LYMAN PROJECT: - 3,100 acres new land.	
Estimated depletion at 1.4 acre feet per acre	4,340 AF
20,910 acres supplemental supply at 0.7 acre feet per acre	14,637 AF

"LITTLE SNAKE PROJECT: - 8,240 acres.	
Estimated depletion at 1.4 acre feet per acre	11,536 AF
10,320 acres supplemental supply estimated at 0.7 acre feet per acre	7,224 AF

"Total estimated depletion - new lands	336,924 AF
Total estimated depletion - supplemental supply	47,761 AF
Total estimated present depletion	<u>374,000 AF</u>
Total estimated depletion to include Initial Program	758,685 AF."

(That amounts to 10.1 per cent of 7,500,000 acre feet.)

"A Committee of Representatives of Water Appropriators from the Green River Basin approved the first draft wherein it pertained to the Initial Construction Program, and we want the proper officials in Washington to know that this proposed program meets our approval; and at this time we respectfully urge that you call attention of the Bureau of Reclamation through the Secretary of Interior to this Memo and our other Memos mentioned herein.

"All of these Memos should receive their consideration in connection with the Comments of Wyoming on their report."

That's all I am going to read of that.

I didn't hear anything from the Bureau officials and I don't know whether they have incorporated that and the 149,000 acres of land that they didn't consider at all. I don't think they have given us very much consideration on that.

Here are some figures that I would like to read just for the benefit and information of the people of the Green River Basin present here. It is information that most of these gentlemen on the Commission are acquainted with because they have studied these problems. This information was taken from the report of the Bureau of Reclamation.

The virgin flow of the Colorado River at the Mexican Boundary, 17,720,000 acre feet. Now, gentlemen, that is the amount of water we have to play with. Used in the United States according to the Bureau's estimate, 7,120,000 acre feet. Used in Mexico, 1,500,000 acre feet. Left for use in the United States, 9,100,000 acre feet.

The virgin flow of the Colorado River at Lee Ferry, 16,270,000 acre feet.

That is all of the important information that I care to read into the record.

Are there any more of you fellows who have something to say?

MR. WM. MCGINNIS, BURNTFORK, WYOMING: Mr. Chairman, has there been anything done or any appropriation, any exhibition of any kind, estimate--anything on the Big Basin in the southwest part of the Valley here? It is just over the Line in Utah and benefits Utah and Wyoming both. Is there anything that has been done? I didn't hear you mention anything of that kind. I would just like to know if there is anything pertaining to that.

COM. BISHOP: Mr. Miller, would you care to answer that?

MR. DAVID P. MILLER, ROCK SPRINGS, WYOMING: Well, Mr. DeLong answered that partially. It is within the Bureau's plan that a development will be made in the Big Basin. Isn't that true, Mr. DeLong?

MR. DeLONG: That is right. There is a provision for Hams Fork in the plan and there is a cost estimate.

MR. MILLER: The way I understand that, the Big Basin contemplates a storage of about a hundred and some thousand acre feet of water which partially may be used on the Lyman and also may be used for new lands in the Henry's Fork Basin. It is within the Bureau's plan.

Incidentally, in this area in which Mr. McGinnis is interested there have been two small reservoirs built within the State of Utah with the fine cooperation of Mr. Watson's office. One is the Beaver Meadows Reservoir which serves the people around Mr. McGinnis, and Hoop Lake Reservoir, which Mr. McGinnis was instrumental in, which stores 3900 acre feet for the lands around Burntfork. Those reservoirs have done signal service saving the crops from total loss in that area, showing what can be done with an assured water supply in an area such as exists in the southwest corner of our county.

COM. WATSON: Mr. DeLong, you spoke of shortages on the north side of the Uinta Mountains, especially in the Lyman area. Do you recall what the total average runoff is of Black's Fork and Henry's Fork over, say, a 20-year period?

MR. DeLONG: I couldn't tell you over a 20-year period--perhaps Mr. Riter can. In a 10-year period, Henry's Fork had 84,000 runoff--if I am wrong Mr. Riter can correct me there. That is all included, I believe, in the Report. The total runoff of Black's Fork, as I recall, for that same period, including Hams Fork, is about 100,000. I am quoting those figures from memory and they might not be correct. I would be glad to look them up for you.

MR. PERRY W. JENKINS: Mr. Chairman, I was a little surprised that our State Engineer didn't tell something of what a little cost and a little water carried across South Pass could do in that valley. The Platte Valley is lacking so much water. We can very easily use in Wyoming all the water that you let us have. We have got thousands of acres of splendid land that can be taken out in gravity flow and carried to that land although we feel that it's cheaper to turn it out on adjacent lands, but it can be carried over there with gravity flow.

By topping all these streams of Green River and storing in the lakes that you see on the map there, they could carry over at least one third of the water that is flowing in Green River. I don't like to mention that; that sounds bad. But other states are talking about it. They are thinking about it, and our engineer should have said, "We have got use for all the water you will let us have."

COM. BISHOP: Mr. Jenkins, of course the Chairman here, Mr. Bashore, cautioned me to not get off the beam and talk about anything outside the Basin. I don't hesitate to talk about the proposed transmountain diversion and the fact of the matter is very little transmountain water will be needed in the long run over there, and if it is ever taken out it will probably be taken out the first years of development when it is not needed over here, and if it is taken out there will be plenty of protection to the people in the Basin.

I didn't see any particular reason for bringing that up as the Chairman asked me to stay within the Basin and I have been trying to do as he requested.

The proposition of the development of the land at such cheap prices, you know as well as I do the time is long since past when we can develop these \$2.00 per acre-foot reservoirs.

I notice the gentlemen from the Bureau of Reclamation very cleverly or cautiously or something avoided talking about the cost. It runs up into hundreds of dollars per acre for supplemental supply; yet we consider it is practical and necessary.

MR. PERRY W. JENKINS: There are a great many acres that can be developed for \$10.00 an acre. It is a long call between \$2.00 and \$400.00.

COM. BISHOP: I don't believe there are any \$10.00 ones.

MR. PERRY W. JENKINS: I can show them to you.

COM. BISHOP: I really don't think you can.

MR. CARL JORGENSEN, PINEDALE, WYOMING: I would like to ask where the Reclamation got the figures you quoted. Was that one year's measurement of the stream, 16,000,000 acre feet at Lee Ferry, or was that an average of ten years?

COM. BISHOP: That is the long-time average, isn't that right, Mr. Ritter?

MR. J. R. RITER, BUREAU OF RECLAMATION, DENVER, COLORADO: Forty-four years' average.

MR. JORGENSEN: Forty-four years. Thank you.

COM. BISHOP: Well, gentlemen, if none of you have anything more I thought I would ask Judge Stone to make a little talk for us and tell us his ideas about what we should do. He has had a lot of experience in compacts, and with your permission I will call on Judge Stone. Judge, do you mind giving us a little talk about the Compact and your idea of what we should do?

COM. STONE: Mr. Bishop and Chairman Bashore, I didn't come here to express my views. I came here to listen to the people from the Green River Valley. I happen to be a member of this Commission representing Colorado and as such Commissioner, I feel that it is my duty as well as the duty of the other Commissioners, to inform ourselves as much as possible concerning the facts and conditions pertaining to a compact in every part of the Basin.

I had the pleasure and the opportunity a number of years ago to learn something of the Green River Basin. Some years ago I went over that Basin with Mr. Jenkins. In later years I have had the opportunity of discussing it many times with Mr. Bishop.

There is one point which has been emphasized here today on which I fully agree--not that I didn't agree with many others, too. You speak of the possibilities of the livestock development, the livestock type of agriculture, in a basin such as that of the Green River. I happen to have grown up in a valley just like that and I know something about the livestock business. I am fully appreciative of the great possibilities of the livestock type of agriculture. That is what it has got to be in this area. You aren't going to grow row crops; that wouldn't be the profitable thing to do.

But after all, if it is a mere question of where this water can be most economically used, then California, for instance, might have an advantage over these Upper Basin States. It isn't so much a question of the economics of where you can raise the cheapest crops; the question is: What is each state's equitable share of this water? That is the question this Compact Commission has got to determine as I see it.

Perhaps in some state, in some area in the Upper Basin, it could be shown that the water is worth more per acre than in the Green River Basin, but in my judgment that is not an argument. You are entitled to your equitable share of this water here in Wyoming, and then after that is determined, it is for you and Wyoming to determine what you are going to do with it. It

seems to me that is no business of this Commission and these hearings which we are conducting now are not to arrive at any conclusions as to internal affairs in any one state. That is the affair and the concern of the State of Wyoming, cooperating and working with the Federal agency engaged in designing a plan for the utilization of your water supplies.

Now there are just one or two other matters. Mr. Wilson, I think, made a very wise remark when he said, "Much as we desire to get a compact as soon as possible, we must be sure that we get a compact that is fair and equitable and one which can be ratified by the legislatures of five states." We may feel that we have got a compact that is ever so good and yet if any one legislature decides that it is not fair to the state that that legislature is speaking for, then it may refuse to ratify and our labors will be in vain. Accordingly, it indicates at least, we should proceed cautiously and understand the facts with respect to the Colorado River. These facts go into many avenues, sometimes avenues of speculation, and we must eliminate as much as possible speculation and make our negotiations on the basis of the facts as near as we can find them to be. No good lawsuit was ever tried without first ascertaining the facts and acting and agreeing upon the facts if possible.

Now that is one thing that this Commission has done. It has appointed an Engineer Committee made up of the best minds we could find in each state. The purpose of that Engineer Committee is to make a study of the facts and to agree as far as possible on those facts in order that the Commission in attempting to arrive at an equitable apportionment of the water may be acting upon facts and not upon speculation. That will require considerable time.

Another matter we should not forget. This Commission and you, who are the people for whom we are working trying to do a good job, must remember we are not doing this job for next year or the next ten years; perhaps we are doing it for all time. Therefore, we and the legislatures that act upon our work must remember that we are setting the pattern for years to come, perhaps for the next generations. That indicates, too, we cannot act too carefully or too cautiously if we are to write an instrument that does not breed further trouble.

Another point which this Commission I feel must keep in mind--some of you have mentioned it briefly: We have two phases to our work. One is to apportion the 7,500,000 acre feet of water allocated under the Colorado River Compact to the Upper Basin. We, of course, must seek to apportion that water among the Upper Basin States. But there is another phase which is just as important and maybe even more important, and that is to determine the respective obligations of these states of the Upper Division to deliver water at Lee Ferry in accordance with the terms of the Colorado River Compact.

There is one other thing which was mentioned here, the fears of some--sometimes it seems to be almost a suspicion--over the activities of other states. In this Compact Commission it seems that we ought to work in unanimity and in fairness all the way through. If we begin to cast suspicions, if we in one state cast suspicions against another state, we will not get very far. One thing we do need to preserve the highest utilization of water in the Upper Basin is a solidarity of action on the part of all of these states. We must not forget that we have a common interest. It is not an interest of one state; it is a common interest.

I note the reference in your resolution to no development until a compact is made. I think you ought to weigh that pretty carefully. We, all of us--and I will pledge that for Colorado, too--Colorado will do its utmost to aid in securing a compact at the earliest possible date. There will be no disposition on the part of my state to delay this compact, but we will strive to

arrive at one cautiously and carefully based upon the facts. However, no one here today knows how soon we may have a compact which can be ratified by the legislatures of the five states.

In the meantime, for one, I do not want to see a project in the Green River Basin or any place else held up if that project clearly would fall within the equitable apportionment of water to that state until a compact is signed. The first thing we know we will make a record we will use as an excuse to do nothing in the Upper Basin until we get a compact. I am certain there are projects in the Green River Basin that are clearly within Wyoming's share of the water. I would venture to guess that most of them are. And if you get a project of that type there authorized and ready to go--most of them are comparatively small, we have a number of those small projects in Colorado--why in the name of heaven should you wait and speculate on when we are going to get a compact done? That project should go forward.

You have the Eden Project. Your representatives in Congress this last year obtained an appropriation to complete that project. If this Executive freeze order which has been made is released so you can complete that project, certainly you ought to complete it at the earliest possible date, and we in Colorado would want to help you to get it completed. Why should any state in the Upper Colorado River Basin object to the completion of these small projects? It is entirely different as to the large projects which have not been authorized and where their construction may exceed the state's share of the water.

And as I understand the report that is submitted by the Bureau of Reclamation it does not say that no project can go forward until a compact is made. It specifically says on the contrary that any project that is clearly within a state's equitable share of the water may proceed if the Congress authorizes it.

I want to say on behalf of my state that we have no designs on any of your water. We are striving desperately to utilize our own water and what we believe to be our share of the water. I wish that we could carry out what our friend Mr. Jenkins said, that all of the water which arises in a state belongs to that state and we should be able to use it. I think it is generally understood that on the basis of records available Colorado produces on the average 11,700,000 acre feet of water a year at Lee Ferry. I wish to call your attention to the fact that thus far my state has beneficially, consumptively used about 1,000,000 acre feet of that 11,700,000 acre feet. In addition we now export from the Basin an average of 136,000 acre feet each year. The Colorado-Big Thompson Project when completed will export from the Basin each year an additional 310,000 acre feet. And after all of the projects which are authorized are constructed in Colorado--and there aren't many of them, but including the Colorado-Big Thompson--we will have utilized only 1,738,300 acre feet, leaving 9,961,700 acre feet of water. That is on the long-time average.

So, gentlemen, don't be suspicious that Colorado is trying to grab this water. We desire to recognize your equitable interest. We recognize there are many factors to be considered in determining equitable apportionment and we want to be fair and we expect to be fair.

I can't see any reason why the large majority, if not all these comparatively small projects in the Green River Basin--and we have a lot of them in our river basins within the Basin--can't be built.

Now there is just one other thing. I didn't expect to say very much but Mr. Bishop has called on me to mention some of these things. There

is one thing I should like for all of the Upper Basin States to understand with respect to Colorado. The large amount of irrigable land in Colorado is in eastern Colorado and the water supplies, the supplies that are now available and not over-appropriated, are in western Colorado. Colorado, I think is the only state that has established by law, and such policy has been accepted by the Bureau of Reclamation, a definite procedure and policy with respect to transmountain diversion. No other state so far as I know--someone may contradict me if I am wrong--has definitely established such a procedure by law or as a definite state policy. We have done it in this way: The Colorado-Big Thompson Project and any future transmountain projects must be so designed and operated so as to protect the present and prospective uses of water within the natural basin. Necessary replacement storage and other provisions must be made to accomplish that purpose.

I think, Mr. Bishop, that's all that I have to say, but I want to emphasize the necessity of a united action and a solidarity of interest and a lack of suspicion among these Upper Basin States because we cannot protect our common interest unless we fully appreciate that interest and that we are all in this game together to try to do a fair and honest job for each and all of the states. (Applause.)

COM. BISHOP: Thank you, Judge Stone. I might tell you at this time that our Basin Development Company has established a policy similar to yours and we figure on following that same policy if and when any water is taken out of the Green River Basin.

The State Engineer of New Mexico is here. He is quite a bashful fellow and he said if I called on him that he wouldn't talk over thirty minutes. Tom McClure.

COM. MCCLURE: Mr. Bishop, Mr. Chairman, gentlemen, I am going to give back a whole lot of the time Mr. Bishop has given me to talk. I think Judge Stone has outlined the Commission's duties in the Basin and so on, how they plan to try to allocate this water.

The only comment I have is that the discussions that have taken place today have been of deep interest. I am always glad to hear the troubles of someone else because we have plenty of them in New Mexico. Our dear friend there, Perry Jenkins, says there have been no projects developed in Wyoming. He is a little bit ahead of us; we haven't even got the investigations on them down there yet!

But there is one thing that that brings up. It has been mentioned here and we have been accused of the same in New Mexico, that we have given away water rights in the past under compact or under agreement or court decisions or what have you. Now that statement, I think, goes back to the early days--oh, not so early, 15, 20, maybe 25 years ago--and they did not have the facts at the time these cases were tried or at the time these agreements were reached. Now this Commission sits here in negotiations with a report but no seer can determine what the needs will be in a hundred years from now.

Mr. Jenkins made the statement that Wyoming would be settled like Sweden. Now if it is, it is the duty of this Commission to allocate water that will take care of a condition like that. We are going to have to look into the crystal ball or something and arrive at a compact and an allocation in that compact of something that is going to last in perpetuity. We are not planning for the next ten years or the next fifteen years. If we were, it would be simple. We could sit down here and say, "Well, we will split this four ways," and I think probably we would be pretty well satisfied for the next ten-year development, but I don't think Colorado would be satisfied. I am doubtful if some of the other states would.

COM. BISHOP: We will be satisfied.

COM. McCIURE: Well, I think we might be, too. We are not talking about the other states. And that is the thing, that regardless of how expedient it is to reach a compact--I would like to sit down here and write one this afternoon if it was possible, I realize that--but on the other hand, if we don't base it on the facts and if we don't get these facts before us to base this compact on, twenty years from now you are going to hear your boy or somebody else up here complaining that we got all your rights down the River. So the people probably thought they were arriving at an equitable distribution on the facts placed before them, and no doubt the courts thought they were giving equitable decisions based on the facts presented.

That is the thing we have got to be cautious about. In other words, I want to reiterate the statement that Judge Stone made that we do want the facts and we want to base this allocation on facts so that 20, 25, 30, or 50 years from now, based on those facts it will still be an equitable distribution among the states. That is about all I have to say. (Applause.)

COM. BISHOP: Thank you, Tom. Now, Mr. Ed. Watson, State Engineer of Utah. We have some problems with Utah on the Burntfork River, which Mr. Watson doesn't want to talk about because our Chairman has cautioned us to stay on the beam, but we do have some problems on the Burntfork. They help themselves to our water and dry up our people and all that. We have a compact commission over there that is not very active, I am sorry to say. The activity has to come from the people and the people don't seem to be calling on the Water Commissioner and our office. Mr. Watson, will you say a few words?

COM. WATSON: Regarding the Burntfork country, I know that there is difficulty there in administering the water. It's an interstate proposition. We have had some little difficulty there with the handling of the reservoirs, but I think that matter can be ironed out all right.

At the present time serious effort is being given to determining stream flows on the north side of the Uintas in order that we may properly distribute them, and also ascertain the various states' contributions to the Green River Basin.

I believe that every concerted effort will be used to carry out the equitable method of distributing that water. I am especially pleased with the goodwill that has been expressed here by the various commissioners, that we are all willing to cooperate and do the best that we can in arriving at a proper conclusion. I feel that we must get the facts but I am particularly pleased with Judge Stone's attitude in this way, I think it is very constructive and very statesmanlike.

I have nothing more to say, Mr. Bishop. (Applause.)

COM. BISHOP: Thank you, Mr. Watson. There isn't any representative here from Arizona, is there?

THE CHAIRMAN: No.

COM. BISHOP: Now you gentlemen have heard these fellows from the other states and if any of you would like to ask some questions, I am sure they will be glad to have you do so and they will try to answer them.

MR. DAVID P. MILLER, ROCK SPRINGS, WYOMING: I want to mention one further thing about the compact. It is out of line but I would suggest we

have a number of people here, and with reference to the statement that the activity has to emanate from the people, I think the people have done the best they could with it.

COM. BISHOP: Is there anything else, gentlemen, that you would like to bring up at this time? This is your meeting. I am doing the best I can to give you all a word if you want it.

MR. EMIL C. GRADERT, FORT BRIDGER, WYOMING: Has the committee of engineers handed in a report as to the division of the water?

COM. BISHOP: No, they haven't. Mr. Gradert, wouldn't you like to say something about this?

MR. GRADERT: No, I think it has been pretty well thrashed out. I would just like to see the report.

COM. McCLURE: I would like to comment on that, Mr. Gradert. The impression may be that the engineer advisers are going to submit a recommendation. Now that I don't think is the idea of your engineer advisers. The engineer advisers have certain studies of certain basic fundamentals they are to assess on the River and they are going to try to compile and correlate all of that information so that we can sit down then and take that information and try to arrive at some equitable allocation. All they are to do is to furnish us the information. They won't make the recommendations or anything to the Commission. I think that is right.

COM. STONE: I would like to back up what Mr. McClure has brought out. It certainly is not the purpose of this Engineer Committee to recommend the division of the water. They are furnishing basic facts upon which the Commission will act in arriving at a compact.

You asked whether they have made a report. This Engineer Committee is working hard. Mr. Riter, who sits over in the corner, is the chairman of that committee. Since the committee was set up on the 17th of September, they have had three meetings. They had one just day before yesterday.

The committee is doing, I believe, an excellent job and they are working hard at it, but the report is not now available and so far as I know no one knows yet just how soon they will be able to complete their work. They are going to complete it as soon as possible. There is another meeting--when is it?

MR. RITER: November 21st.

COM. STONE: Their next meeting is November 21st. They aren't going to tell us, "We recommend you divide the water so-and-so." They are going to give us the basic facts and it is the job of the Commission to decide on the division, and I might add also, the deliveries at Lee Ferry.

COM. BISHOP: Mr. Riter, will you say a few words?

MR. J. R. RITER, BUREAU OF RECLAMATION, DENVER, COLORADO: Mr. Chairman, the Engineer Committee felt that since we are dividing up water that one of the first things the Commissioners would want to know would be where that water comes from. Then another job we are going to try to thrash out is how we can level off or how we can regulate the stream to make the water available to us.

Now Mr. Bishop has quoted some figures which the Bureau put in the

report which was on the long-time average. Over a period of better than 44 years, the average undepleted flow at Lee Ferry has been something in excess of 16,000,000 acre feet. Well now we know that in a ten-year period, from 1931 to 1940, there has not been anywhere near 16,000,000 acre feet at Lee Ferry. So that if the Upper Basin is going to realize the use of 7,500,000 acre feet of water, some schemes have got to be devised so that water will be available to us and still meet the obligation at Lee Ferry.

Now they are the two principal objectives. Of course, there are other matters involved. For example, water that Wyoming releases at the State Line will not all arrive at Lee Ferry. The committee is trying to analyze the losses along the main stems. Similarly, we assume that Colorado will have some share of the obligation to deliver water at Lee Ferry. That means if a given quantity of water is delivered at the Colorado Line, that is going to be reduced in transit through Utah along the main stem to Lee Ferry and also along the San Juan River to Lee Ferry. And similarly, any obligation that New Mexico will have to meet, her share at Lee Ferry will be reduced in the channels.

Now in the past there has been very little information available on those main stem channel losses. The committee is trying to evaluate those losses because we feel that is one of the facts the Commission should have in front of them before they divide the water up.

Getting back again to this origin of water we find there are many tributaries that aren't measured. We have good records at the key stations, that is, the main stem of the Green River near its mouth. We also have good records up here at Green River, Wyoming, good records near the State Line between Wyoming and Utah.

We have good records on the Colorado River near Cisco, Utah, which is very close to where the Colorado River discharges from Colorado. We also have records along the San Juan, the main stem, and we have records on many tributaries but there are also many tributaries which are not measured. For example, the southern tributaries of the San Juan River in New Mexico we know practically nothing about. We are trying to analyze and make estimates as best we can, using the information we have available, so that Tom McClure, for example, and also Ed. Watson over in Utah can know what their contributions are to the stream.

Now I very foolishly at Santa Fe stuck my neck out and said we could do that in 36 man months. I don't know whether we can or not. Where we have to make estimates, we have to apply judgment, but engineers also differ. The fellows who are working with me, the representatives of the states, have ideas and they are all very cooperative. They all have an attitude of trying to get at the facts.

I don't want to promise at this time when that report is going to be submitted. I personally made one study which I submitted to the Engineer Committee at the meeting we held Friday of last week. Well, that study was rejected, I was thrown for a loss, and it has got to be done over again, and the reasons for rejection are fair and reasonable. I was willing to back up and reconsider.

I feel that when the study is completed that the particular phase of it which I promised to work out will be acceptable to all concerned. After all we have got to agree on the facts we are going to use for the basis of the compact.

That is about all I have to say, Mr. Chairman. (Applause.)

COM. BISHOP: Gentlemen, would any of you like to ask Mr. Riter questions? He has made a study of the details of this project probably more than anyone else and if he can't answer them, I believe Mr. DeLong can. Norm, how about it? Wouldn't you like to ask some questions about the water supplies or anything?

MR. NORMAN W. BARLOW, CORA, WYOMING: I don't think so. I will be very interested when they get the report and I think we ought to give them an opportunity to assemble that data and then make their report.

COM. BISHOP: Gentlemen, anything else that any of you have on your mind? (No response.) If not, I am going to turn this meeting back to the Chairman and let him give us a talk. You heard what has been going on and so I will just turn the meeting back to you, Mr. Bashore, the Federal Representative of the Upper Colorado River Basin Compact Commission and the Chairman of the Commission.

THE CHAIRMAN: The Chairman wishes to thank you, Mr. Bishop, for your able conduct of this meeting; and on behalf of the Commissioners, the Chairman extends his thanks and appreciation to all of you for your attendance at this meeting, for your participation in the discussion and your remarks.

There was one question brought up here which I wish to touch on just a little bit because I believe some of you have the wrong idea concerning it, and that is the matter of the 160-acre land limitation. That land limitation is a perplexing question to the Bureau of Reclamation. A year ago at a National Reclamation Association convention at Denver we had a hot time discussing it. We got into a big argument about it. My friend Judge Stone, Judge Sturrock of Texas, Roland Curran of California, and others were on one side of the question and the then Commissioner of Reclamation, your present Chairman, was on the other side of the question and I had some help from some of the people in Wyoming.

The question was: Should the Association go on record for the complete elimination of the 160-acre limitation? We had a good time arguing it. I am very thankful to say that I am no longer an official of the Bureau of Reclamation and don't have to worry about that question, but it is a perplexing question. At the last meeting of the National Reclamation Association in Omaha the matter was again considered and I think a very intelligent resolution was passed in regard to it which provided for a committee to work with the Bureau of Reclamation in an attempt to work out a solution for the 160-acre limitation.

Now that doesn't bother you folks so much in Wyoming, in my opinion, as it does people interested in irrigation in Texas and in California where there are real large land holdings. I believe some of you have the idea that the 160 acres applies to land whether it is irrigated or not. It applies only to the lands that receive water. You can have 5,000 acres of range land under the Reclamation Law or any other law but if you got 160 acres of irrigated land, that is all you can receive water for under the Reclamation Law.

Now just one word more on that subject and I am through with that. You naturally want to have land for your sons to farm, but you must remember that this is Federal money that is being used for the benefit of all the people and you must not lose sight of the fact that it is necessary to provide opportunities for other men's sons who may wish to farm irrigated land.

I am very hopeful a sensible solution will be worked out, and don't forget this, that that limitation has been reiterated all through reclamation laws and your own Senator from Wyoming in the Warren Act had that same

provision inserted in regard to land limitation. That is for the disposal of supplemental water from reservoirs which were built that had excess capacity. So I don't think you need to worry about that.

I wanted to mention that to clear the atmosphere just a little and to assure you the officials of the National Reclamation Association and the Bureau of Reclamation will attempt in the coming year to work out something that will be sensible and at the same time not destroy the basic principles in the Reclamation Law.

Now I want to call the attention of the Commissioners to the fact that they have some work to do and I think they should start on it this evening, and that is the correction of the transcript of the Santa Fe meeting. The Chairman has had opportunity to scan it hurriedly and certainly it needs a lot of polishing up.

Before we conclude this series of meetings it will be necessary for the Commissioners to decide on the place of the next meeting, and in the opinion of your Chairman, leaving open the time of the next meeting, which is contingent on the availability of the report of the Engineer Committee.

The Chairman would like to have an expression from the Commission as to working on this transcript this evening.

COM. BISHOP: Mr. Chairman, I will volunteer for one to work with you or anyone else.

COM. STONE: Mr. Chairman, wouldn't it be advisable for each Commissioner to use this evening or such other time as the Commissioner may have to review the transcript and then have another meeting before we get through with this series of meetings to make the corrections? It seems to me we will save time that way.

THE CHAIRMAN: Judge Stone, ordinarily that would be a very sensible procedure but it seems doubtful to your Chairman that that can be successfully done with this transcript. Unfortunately Miss Price didn't report the last meeting.

MR. WM. MCGINNIS, BURNFORK, WYOMING: Mr. Chairman, gentlemen, I would like some information on this 160 acres of land. I have a perfect right--

THE CHAIRMAN: Wait a minute. You want this on the record or not?

MR. MCGINNIS: I would like to.

THE CHAIRMAN: On the record?

MR. MCGINNIS: Yes.

THE CHAIRMAN: All right.

MR. MCGINNIS: I would like and I am able to show the fact that different localities and different portions of land require more for the support of one family or one man even than others. Our country is a stock-raising country principally and I doubt very much that very many stock, enough to support a family, can be raised on 160 acres in this country.

MR. CHAIRMAN: Taxed land?

MR. MCGINNIS: Irrigated land. I have tried it pretty successfully, and it's a very poor living at least if they do, a very poor way to provide. There are portions of land and places that less than 160 acres would provide a substantial income for any one family, but there are portions of it that would not. And as far as the arid lands that have no water, there are years when they are absolutely worthless.

So I would like some information on that 160 acres and I would like to get facts regarding the establishment of that. I don't take it as a very sound fact unless it would be in accordance with the ground to which it was applied.

THE CHAIRMAN: Well, Mr. McGinnis, that is a question which is entirely beyond the purview of this Commission. That will not come into consideration by the Commission in its deliberations. And about all I can say about all I can say about that at this time is that the committee which will study the matter will probably come out with some sort of an alternative to the present Reclamation Law. Now there is nothing wrong, Mr. McGinnis, if you have four or five boys, if each one of those boys has 160 acres of irrigated land, but it is limited to 160 acres in one ownership.

MR. MCGINNIS: Well, we will see after the committee thrashes it out.

THE CHAIRMAN: All right.

COM. STONE: Mr. Chairman, may I correct the impression that the place of the next meeting of the Commission has not been fixed? On page 23* of the record of the Santa Fe meeting a resolution was adopted authorizing the calling of the meeting when the engineers were ready to report at Denver, Colorado.

THE CHAIRMAN: Thank you, Judge Stone. The Chairman is glad to be corrected.

COM. STONE: Mr. Chairman, I move that the Commissioners together with the Acting Secretary convene in Room 114, which is the room of the Chairman, tonight at eight o'clock for the purpose of reviewing and editing the record of the meeting held at Santa Fe, New Mexico, on September 17 and 18, 1946; and that after the transcript is thus edited, whether completed tonight or later, the Secretary of the Commission, as was true with the other transcripts, be authorized to put it in final form as corrected.

COM. WATSON: Second the motion.

THE CHAIRMAN: Any discussion? (No response.) (Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

THE CHAIRMAN: The meeting is adjourned.

(4:40 p.m., Monday, October 28, 1946, meeting adjourned until 10:00 a.m., Wednesday, October 30, 1946, at Grand Junction, Colorado.)

* Page 46 of edited record Santa Fe meeting.

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Official Record of Meeting No. 3

Session Held

October 30, 1946

at

Federal Building

Grand Junction

Colorado

APPEARANCES
UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Membership as listed at Rock
Springs, Wyoming, Session
(Page 1)

Chairman, Acting Secretary,
and all Commissioners present.

COLORADO:

Jean S. Breitenstein	Attorney, Colorado Water Conservation Board, 718 Symes Building, Denver, Colorado.
R. J. Tipton	Consulting Engineer, Colorado Water Conservation Board, Denver, Colorado.
H. L. Potts	Engineer, Denver Water Board, Denver, Colorado.
Glenn G. Saunders	Attorney, Denver Water Board, Denver, Colorado.
Charles J. Beise	Southeastern Colorado Water Users Ass'n., First National Bank Bldg., Denver, Colorado.
Frank C. Merriell	Secy-Engr. Colorado Water Conservation Board, Grand Junction, Colorado.
Silmon Smith	Colorado Water Conservation Board, Grand Junction, Colorado.
Paul L. Littler	District Judge, Grand Junction, Colorado.
Herbert W. Fritz	City Manager, Grand Junction, Colorado.
Carl M. Bennett	City Engineer, Grand Junction, Colorado.
C. J. McCormick	Colorado River Water Conservation Dist., Grand Junction, Colorado.
James D. Bradley	Grand Valley Irrigation Company, Grand Junction, Colorado.
Wm. J. Sullivan	Grand Valley Irrigation Company, Grand Junction, Colorado.
Percy J. Gates	Grand Valley Irrigation Company, Grand Junction, Colorado.
Robert F. Rockwell	Congressional Representative, 4th District, Paonia, Colorado.
Archie B. Toner	Southwestern Water Conservation District, Fort Collins, Colorado.
Dan B. Hunter	Southwestern Water Conservation District, Dove Creek, Colorado.
Carl R. Smith	North Fork Water Conservation District, Hotchkiss, Colorado.
Charles R. Neill	North Fork Water Conservation District, Hotchkiss, Colorado.
Harry W. Gueno	Attorney, Paonia Project, Delta, Colorado.
D. L. Williams	Southwestern Water Conservation District, Norwood, Colorado.
Wm. J. Dodd	Uncompahgre Valley Water Users Association, Delta, Colorado.
B. H. Jorgensen	Colorado River Water Conservation District, Gunnison, Colorado.
E. L. Dutcher	Gunnison Watershed Conservation Committee, Gunnison, Colorado.
Manny Diel	Arkansas Valley Water Users, Pueblo, Colorado.
J. M. Dille	Northern Colorado Water Conservation District, Greeley, Colorado.

Hume S. White

John Heuschkel

Mrs. Wakefield

Colorado River Water Conservation District,
Eagle, Colorado.

Pres., Colorado River Water Conservation
District, Glenwood Springs, Colorado.

NEW MEXICO:

Fred E. Wilson

Special Assistant Attorney General and
Attorney for New Mexico Interstate Stream
Commission, Albuquerque, New Mexico.

UTAH:

Wm. R. Wallace

Thos. W. Jensen

C. S. Jarvis

President, Utah Water Users Association,
Salt Lake City, Utah.

Utah Water Users Association,
Mt. Pleasant, Utah.

C. E. with State Engineer, Salt Lake City,
Utah.

WYOMING:

Emil C. Gradert

Assistant Compact Commissioner, Fort Bridger,
Wyoming.

BUREAU OF RECLAMATION:

J. G. Will

J. R. Riter

N. B. Bennett, Jr.

E. O. Larson

Assistant Chief Counsel, Washington, D. C.
Chief, Hydrology Division, Denver, Colorado.
Branch of Project Planning, Washington, D.C.
Regional Director, Region 4, Salt Lake
City, Utah.

J. Stuart McMaster

F. M. Warnick

C. H. Jex

T. L. Sundquist

Alan McDermitt

George T. Finlinson

John C. Shepherd

John J. Hedderman

Ben F. Powell

A. A. Batson

J. H. Knights

A. N. Thompson

Counsel, Region 4, Salt Lake City, Utah.
Gunnison, Colorado.
Grand Junction, Colorado.
Grand Junction, Colorado.
Grand Junction, Colorado.
Gunnison, Colorado.
Gunnison, Colorado.
Durango, Colorado.
Pueblo, Colorado.
Denver, Colorado.
Denver, Colorado.
Amarillo, Texas.

SESSION AT GRAND JUNCTION, COLORADO
WEDNESDAY, OCTOBER 30, 1946

The meeting was called to order by Chairman Bashore at 10:20 a.m., Wednesday, October 30, 1946.

THE CHAIRMAN: It is now 10:20, all the Commissioners are present, our Acting Secretary, Mr. Alonzo Watson, and our reporter.

At the last meeting of the Commission held at Santa Fe, New Mexico, the Commissioners of the Upper Colorado River Basin Compact Commission decided that the next regular meeting, Meeting No. 3, of the Upper Colorado River Basin Compact Commission would consist in part of a series of field meetings or hearings to be held within the watershed of the Colorado and within the Upper Basin States. This is the second meeting of the series. The first one was held at Rock Springs day before yesterday. The next one will be at Price, Utah, and the last one, Meeting No. 4, will be held at Farmington, New Mexico.

The purposes of these field meetings or hearings are to allow the people to become acquainted with the Commissioners, the work of the Commission, and to offer suggestions and criticisms which may be helpful to the Commissioners in their consideration of this compact. The Chairman hopes that you will all feel free to say whatever you may have on your minds.

Following the practice which we followed at Rock Springs, the Chairman will now ask Com. Clifford H. Stone of Denver to take charge of the meeting here at Grand Junction, Colorado. Judge Stone.

COM. STONE: Mr. Chairman, Members of the Commission, it seemed to me appropriate to introduce the Members of the Commission to our Colorado people.

The Chairman of our Commission--he has already spoken but I wish the privilege of introducing him to those of you who have not met him--Harry Bashore, was appointed by the President of the United States to represent the Federal Government in the negotiation of an Upper Colorado River Basin Compact and is Chairman of the Commission. Mr. Bashore formerly was Commissioner of the Bureau of Reclamation. He is very much a Western man, having spent most of his active years in the Reclamation Service in the West. We were all pleased that he was selected as the Federal Representative.

Thomas M. McClure, Commissioner for New Mexico. Mr. McClure has long been engaged in Colorado River matters.

The next man is Charles A. Carson, Commissioner for the State of Arizona. Charlie Carson likewise has long been engaged in Colorado River matters. He is one of those men in the Lower Basin who works for the entire Basin and has a broad viewpoint for the best interests of the entire Basin.

The next gentleman is L. C. Bishop, Commissioner for the State of Wyoming. He is the State Engineer of that State, who likewise has had many years of experience in Colorado River matters.

The next gentleman is Ed. H. Watson, Commissioner for the State of Utah. He is the State Engineer and for many years has been functioning in the interests of Colorado River matters.

Now I should like to introduce some of those who are helping us in this work. The Commission at its last meeting selected Miss Price from Utah to serve as its reporter. It is her function to put down what we say in these meetings and it isn't too easy a task. However we found that she did her work

so well at our organization meeting in Salt Lake City that we have selected her to do this work.

The Secretary of the Commission is the Attorney General of Utah, Grover A. Giles. Someone tells me on the side that Grover finds himself in the midst of a busy election campaign. The man who is pinch-hitting for him is Mr. Watson from Utah. He is the Acting Secretary.

Then we have other men here who have been selected to function in various capacities in this work. Mr. Riter is the Chairman of the Engineer Committee. He is of the Bureau of Reclamation. You will hear from him later on.

We have a man here who has come all the way from Washington. He is the Legal Adviser to the Federal Representative, Mr. J. G. Will.

There are some others who have been prominent in Colorado River matters and who are serving in various capacities in connection with their respective states. I should like to introduce some of them.

Mr. Fred Wilson of Albuquerque, New Mexico, is the attorney for the Interstate Stream Commission of that State and is the legal adviser to Mr. Thomas McClure.

Then I think all of you know that no work on the Colorado River could be properly accomplished without the advice and the assistance of a man who for many years has been identified with the Colorado River. He participated in the original Colorado River Compact. I feel quite certain most of you know him. I should like to introduce him, William R. Wallace of Salt Lake City. (Applause.)

We have here a number of representatives of the Federal Government. I assume later Mr. Bashore may have the opportunity of introducing them. I should like to introduce my legal adviser, a man who has been accompanying me on this trip and who is the attorney for the Colorado Water Conservation Board, Mr. Jean S. Breitenstein.

We are here in Western Colorado where there is one man who conducted the hearing in Western Colorado on the Colorado River Compact and who through all these years has been working for the best interests of the development of Western Colorado. He will speak to you later but I should like to introduce him. Mr. Frank C. Merriell.

Now there are of course others but they will speak later.

As the Chairman explained to you, as the Commission holds these meetings in various states, it is the job of the Commissioner from the particular state to conduct a hearing with the aid and assistance of those representing the local people. We have prepared a definite program for this Colorado meeting. Later we shall introduce Mr. Silmon Smith, a member of the Colorado Water Conservation Board from Western Colorado, who will act as moderator for the Colorado presentation. We shall introduce him later but I think he ought to stand up for a moment.

The Chairman said it would be my function, first, to explain the reason for the compact negotiations in the Upper Colorado River Basin; and to also review briefly the manner in which the Commission is proceeding. These meetings have a two-fold purpose: to make the explanation which I have mentioned; and, second, to afford the local interests, people from Colorado in this instance, to make such statements and offer such comments as seem

First, as to the reason for these negotiations: It has been suggested for some years that the time would soon arrive when it would be necessary for the states of the Upper Colorado River Basin to negotiate a compact for two purposes: First, to apportion the water allotted to the Upper Basin by the Colorado River Compact among those states; and, second, to determine the respective obligations of those states to make deliveries of water at Lee Ferry in accordance with the Colorado River Compact.

Now this thought was implemented by the recent report of the Bureau of Reclamation. That report sets forth an inventory of proposed project development and contains pertinent data for a plan of comprehensive development of the Colorado River Basin. The report reveals the fact that before we can proceed much further in the development of the Basin, the states must assume certain obligations and must accomplish certain things, and among them is the determination of each state's share of Colorado River water.

That conclusion is obvious. We are now proceeding to a stage of development wherein the projects are large in many instances and will require a lot of water. It is the conclusion of the Bureau that until each state's share is determined, such projects should not be authorized for construction.

It is the view--my view at least--and I believe is, if I may say so, the correct view, and it is supported by the report of the Bureau itself, that does not mean that no project may proceed prior to the making of a compact. It means that large projects may not go ahead. But if a project is clearly within a state's share or what may be a state's share of the water, it may go ahead even prior to the consummation of a compact.

Now I think it should be said, although perhaps most of you know it, that the Colorado River Compact apportions to the states of the Upper Colorado River Basin 7,500,000 acre feet of water. That means that much water for consumptive use, turning it up, if you please, within a period of one year.

The states of the Upper Basin are five in number. Often we think of the four Upper Basin States. Arizona has a comparatively small area in the Upper Basin and therefore participates in these negotiations. The term, "the States of the Upper Basin," must be distinguished from "the States of the Upper Division." The Colorado River Compact provides that the States of the Upper Division are Colorado, New Mexico, Utah, and Wyoming. Arizona, which is also a Lower Basin State, is entitled to its equitable share of Upper Basin water but it is not required to make deliveries at Lee Ferry under the Colorado River Compact. The four states of the Upper Division are required by the Colorado River Compact to deliver 75,000,000 acre feet of water at Lee Ferry in succeeding ten-year periods. Therefore it is obvious the job that we have is to take care of the apportionment of that 7,500,000 and the obligations to deliver water at Lee Ferry in accordance with the Compact.

At a meeting at Cheyenne held on the 22nd day of July of this year, the five governors of the states of the Upper Basin agreed to initiate compact negotiations. There was created at that time what is known as the Upper Colorado River Basin Compact Commission. This Commission organized at Salt Lake City, Utah, on July 31st of this year. Prior to that time these Commissioners who have been introduced to you were officially designated by their respective governors as the representatives of the participating states.

At the Salt Lake meeting we determined the basis upon which we were proceeding to compact. We appointed a temporary committee to set up a program of engineering studies. The reason for that is obvious. In compact-making as in the trial of a case before a court, it is first necessary to understand and know the basic facts with which we are dealing; and it is also advisable that

so far as possible we agree as states upon those facts. That saves a lot of time and often much argument.

At Santa Fe, New Mexico, on September 17th and 18th we held the second meeting of the Commission. At that time the Engineer Committee brought in a program of study which was accepted by the Commission. The Commission then set up a permanent Engineering Advisory Committee to conduct and carry out those studies. That Committee is headed by J. R. Riter, who was selected by the Commission as the Chairman. That Committee has been very active since that time, having held three or four meetings. It has a big job to do. Before we conclude today we have on the program a statement from Mr. Riter respecting the nature and the work of that Committee.

Much has been said about expediting the negotiation of a compact. All of the Commissioners I believe desire, and it is certainly the position of Colorado, that we should expedite as much as possible the negotiation of a compact. On the other hand, we fully recognize that we have a big job to do and that we must proceed cautiously. After all, if we allocate all of the 7,500,000 acre feet of water in the Upper Colorado River Basin, we are setting the pattern of development not only for this generation but for generations to come.

The compact cannot be too carefully made. If it is made without an adequate appraisal and understanding of the facts and if it is not made fairly and justly, considering the rights and interests of all of these states, then in the end we may be breeding trouble rather than establishing peace on the River; and the compact should establish peace for all time to come.

It should be understood in this hearing, and I believe it was explained at the Rock Springs meeting, that here today we are not concerned with internal questions within any particular state; we are concerned with the rights and the interests of each state on a state unit basis. When this water is finally apportioned it will be a mass appropriation to each state and each state will then proceed together with the Government, and with the advice and cooperation of the Government, I am sure, to determine the best use of the share of water apportioned to each state. This is no place to air, either in this meeting or the other meetings, any internal matters within a state. As has often been expressed by Mr. Merriell, we shall do that in our own backyard.

This Commission cannot say at this time how soon we will conclude our work, but we are going to work as hard as possible while at the same time as cautiously as possible to do the job.

There is one other thing which should be understood. The Commission is not engaged in perfecting a compact which has, as the product of the Commission, binding effect. The Commission has been asked to negotiate a compact. That compact will not become binding on all of the states or any one of the states until it has been ratified by the legislatures of all of the states and approved by the Congress of the United States. It is clear, then, that in negotiating this compact in each state, we must be very careful that we keep in close touch with our own people and that we act in such a way that we may have reasonable assurance that after we have completed our task, the state legislatures will ratify it and the Congress of the United States will approve it.

I can only call your attention to the Republican River Compact in this state when we worked a long time to get such a compact with Kansas and Nebraska and then although it was approved by Congress, it was vetoed by the

President. We had to do the job over. There are other instances where states have worked hard and the negotiators brought forth a compact where it was not ratified by the legislatures.

So it is a big undertaking and one where in our processes of government the people, acting through the legislatures and finally through the Congress of the United States, must finally put their approval on whatever this Commission does:

Now that I have explained the task we have to perform and the method by which we are proceeding, I wish next to call upon Frank C. Merriell. He has a statement to make and will introduce Silmon Smith, who will act as moderator for the State of Colorado in this meeting. Mr. Merriell.

MR. FRANK C. MERRIELL, GRAND JUNCTION, COLORADO: Mr. Chairman and Members of the Upper Colorado River Basin Compact Commission:

If we were standing on ceremony it would have been attempted to invite the Governor of Colorado here to welcome you, but he, like yourselves, is a busy man, and we hope that you will accept your welcome from us, with the assurance that while less official it is none the less sincere. We are sorry that the urgency of your business will not permit you to see more of our country and of the uses we make of the Colorado River just as we are sorry that we cannot in the ordinary courses of our affairs see more of the uses you make in your states. Your trip from Rock Springs, the trip you will make to Price tomorrow morning and your later trip across the San Juan Basin will, however, afford you some idea of Colorado's lack of development and of the need for irrigation projects in the more sparsely settled parts of our state. You will recognize that the greater part of our development lies east of the route you will follow, is directly connected with the livestock industry, and raises such specialty crops as late potatoes and sugar beets.

We are glad to welcome you, not only to Western Colorado, but to Grand Junction, its largest city, and to this meeting place as well. Twenty-four years and seven months ago yesterday, on March 29, 1922, the Colorado River Compact Commission held a meeting in this same room. It was the only hearing that commission did hold on the River and it held only one other in the Colorado River Basin, at Phoenix, Arizona. It seems to us that you are making a much more realistic approach to your task in the series of hearings on which you are now engaged, by getting first, the views of the people actually so vitally concerned in the work you are to do.

It is hard for any of us to appreciate the difficulties that first Commission faced. It was the beginning of new thinking on interstate problems, and the idea was not cheerfully received by anyone in the Upper Basin with whom the Commission came in contact. In those days the information, such as stream flow records, records of areas irrigated, estimates of consumptive use and all the particulars so greatly needed in making a compact were almost entirely non-existent. The lack was so great that the original intention to allot water by states had to be abandoned and the allotment of water by basins was the best that could be accomplished. You are here today, as part of your mission, to carry forward the work then so ably begun. In the light of the information they had, it has seemed to many of us, over the intervening years, that the first commission did a very remarkable piece of business, and we predict that your work, since you have a more complete knowledge of the facts, coupled with a better understanding by those affected of the purposes of a compact, will bring forth a more specific and usable result.

Two points of view regarding the Colorado River Compact which were original with Delph Carpenter, the Coloradan who first advanced the compact

idea, have remained with many of us in Colorado who have tried to follow in his footsteps. He strongly felt that the terms of the Colorado River Compact applying to matters other than the actual division of water between the basins were the greatest assurance of fair dealing between the states that could be obtained by the states of the Upper Basin. The waiving of priority of power rights, the making of actual use the measure of demand, the provisions that a large reservoir on the lower river would automatically liquidate lower river claims into it, such provisions as these were, in Delph Carpenter's mind, the essence of that Compact.

He foresaw much of the difficulty that would be made by one of the Lower Basin states over its fancied large needs, but since his idea was founded on the doctrine already announced by the Supreme Court of the United States that rivers must be used under an equitable apportionment between the states affected he felt sure that the Compact would endure, because it was the expression of the states themselves as to what equitable apportionment should be. Much has been said over the years about the possibility that the Compact may not endure. Those who say this and those who hope it may not, seem to forget that behind the Colorado River Compact is the essentially fair idea of the Supreme Court that equitable apportionment of water must govern, whether that apportionment is made by the states themselves, as the Court prefers, or whether it is made by the Court. Certainly in the making of the present Compact, which is an extension of the original one, we owe it to ourselves so to plan that the states of the Upper Basin and of the Upper Division cannot be accused of any act that would tend to weaken, or fail to comply with the terms of the original Compact.

Following that original compact hearing in this room, at which I conducted the local appearances, I have attended many Colorado River meetings. This one seems typical in that it appears to have drawn irresistably, so many people from outside the Colorado River Basin. When the seven states have met it was usually true in most meetings that all the representatives of the states taken together were generally outnumbered by those from one California city -- Los Angeles. Here today we people from Western Colorado are almost in a minority as compared with the delegations of our friends from Salt Lake and from Eastern Colorado. However, we welcome them and the representatives of all the Federal agencies to Western Colorado and to this meeting. Mr. Chairman, we find the solicitude on the part of our out-of-basin friends touching--in fact, it seems to us a foretaste that because of their anxiety over our problem we shall be deeply touched in the future. We can only hope that their interest goes along with ours in the preservation of the original compact and in its being made more workable and strengthened by the compact upon which you are engaged. We bespeak from them the same earnest intention to carry out the terms of the original compact that have been our aim through all the years. If all the Upper Basin States have this first consideration as their aim we expect a very valuable compact to result from your deliberations.

Mr. Chairman and Members of the Commission, we ask that you feel free to call upon any of those present whom you feel can contribute to explain the ideas of Western Colorado regarding this compact. In order, however, to conserve the time we have designated a local moderator who in addition to what he may contribute will call upon those who have indicated that they have anything to say to you. He is, I think, known to you all, not only as a prominent member of the Colorado Bar, but as one who has taken for many years a strong interest and a leading part in Colorado River matters. Mr. Silmon Smith was prominent in the first organized effort to bring about understanding between Eastern and Western Colorado, that of the Western Colorado Protective Association. He was an influential member of the body from both parts of the State that drafted the famous Senate Document 80 of the 75th

Congress, relating to the Colorado-Big Thompson Project. He has almost since its inception served as a member of the Colorado Water Conservation Board, which has set up the policies of Colorado with relation to all its water problems. I am sure he can inform you how Western Colorado regards this proposed Upper Basin Compact and I bespeak for him and those upon whom he may call your kind and considerate attention. Thank you. Mr. Smith.

MR. SIMON SMITH, GRAND JUNCTION, COLORADO: Mr. Merriell, Mr. Chairman, gentlemen of the Commission, friends: I am very proud that that passive word, "moderator", has been bestowed upon me. I think that I have attended sessions where "referee" or "umpire" would be much more appropriate, but let's leave it at "moderator."

I remember some ten or fifteen years ago attending a meeting on the Colorado River in Salt Lake City. It was fashionable during that period to ride the State of Arizona. The riding was rough that day and I remember as a last resort, one of the representatives of Arizona got up and said, "Now you boys from the Upper Basin States be kind to me. This isn't anything to what you are going to get when you start dividing the water in the four Upper Basin States."

We become a little more peaceable as the years go on, I think, because we have been getting a little better acquainted and it is this lack of acquaintance with each other's problems that accounts for most of the difficulties.

Now in order that these people of Colorado for whom I am acting as a sort of liaison officer may know that probably these gentlemen on the Commission are human beings, I want to say first that my friend, Charlie Carson, has given most of his life's effort to the study of the Colorado River, but he was an ordinary human being once and he attended college at the same place and at the same time I did, and he is a very fine fellow. He has represented the State of Arizona most admirably for many, many years. But Charlie Carson is a reasonable human being and you ought to be proud that he is a member of this Commission.

Now of course, Tom McClure over here, I don't know so much about McClure. The only intimate detail is that he and Dan Hughes of Montrose used to occupy the same jail at the same time when they were in the first World War, and during the years I have learned he is a very fine, sensible gentleman.

I don't know anything about Mr. Bishop or Mr. Watson except they stand high in their own states. I hope to get better acquainted with them.

We might refer for just a moment to the lack of understanding that existed in a couple of places even in Colorado. Eastern Colorado craved some Western water. Western people were a little jealous of that idea and eventually it got so we could mingle in the same room. And finally they got so friendly that one of these Eastern people came over and said to the Western people, "How are your cherries this year?" He wanted to be very friendly; he wanted to know about our cherries. We were cold to him; we didn't have any cherries. We told him, "We don't raise cherries; we have peaches." He didn't know that. But when he found out about us and we found out about him we found out we were all fine people.

In the division of this water we are going to confront primarily two problems, the fact that there isn't enough water to take care of all those plans which have been made by the Bureau of Reclamation--and that doesn't purport to be all of the plans either; and we are too prone, probably, to think about the amount of water that we are going to use and are perhaps not sufficiently advised of the fact that we are going to have to be responsible to this Lower Basin.

Judge Stone referred to this 7,500,000 acre feet--which is more accurately 75,000,000 acre feet distributed over each succeeding ten-year period--as though we had that water. Not so. That is the second 7,500,000 acre feet out of the River. The first 7,500,000 acre feet is allotted to the Lower Basin. Now if there is 7,500,000 acre feet left and if we aren't required to use some of the 7,500,000 acre feet to supply the Treaty obligation to the Republic of Mexico, then we can talk about this 7,500,000 acre feet that we are going to divide up. We have it only secondarily.

I am under the impression that when this Colorado River Compact was first made it contemplated considerably more water than we have subsequently found out flows down this river. Now whether this is a temporary situation or whether it is more water than we are going to have in the future or whether it is less water than we are going to have in the future, nobody knows.

But the obligation to deliver the first 7,500,000 acre feet, on an average, is a real obligation in the eyes of those of us persons here who live along this branch of the Colorado River--which we like to think is the main branch of the Colorado River--and when we can walk across it up here below Palisade without getting our low shoes wet, we wonder whether or not that obligation isn't a serious proposition. There used to be a time in the pioneer days here when nobody ever thought of all the water in that river being used. Now we wonder if there is going to be enough water for the immediate future.

So that in the division which will be worked out by this Commission they are going to be confronted with an equitable, I take it, division. The same kind of a principle that would apply if a court were dividing the water will probably apply to the division made by the Compact Commission.

They are also going to be confronted with the division of this obligation. After deciding how much water each state will be entitled to they will have a complementary question, how much water will that state be obligated to furnish to the Lower Basin?

In working out this consecutive ten-year rule, it will undoubtedly be necessary to build certain mid-river reservoirs for the purpose of impounding water during the lush years to carry over during the dry years. Now those reservoirs are not without disadvantages because every impoundment of water that is made is going to result in so much evaporation. Before those mid-river reservoirs are constructed there is going to be necessarily a lot of study as to the amount of water that those rivers flow during the lush period as well as the lean periods and the amount of water that is evaporated while this storage is being carried on to bring us over the low point.

In Colorado we have enacted a few rules which we believe are good rules for us as well as for other people. For example, we now have a law to the effect that any irrigation district or conservancy district which may be formed for the purpose of entering into a construction contract with the Bureau of Reclamation must provide, first, that it is subject to obligations of the Colorado River Compact and the Boulder Canyon Project Act, and also that it must protect not only the present but the future uses of the water in the basin from which it may be taken--that is to say, the future use of the water that that basin may in the future need for its development. We feel that that rule, which is also incorporated in the Senate Document No. 80, would be a proper rule for the other Upper Basin States to inculcate in their thought.

We have another rule in Colorado to the effect that no water may be taken from the State of Colorado, that is, the diversion may not be made in the State of Colorado for the use in some other state. That is a statute which will undoubtedly be overridden by this Compact Commission when our compact is drawn up and after it has been ratified by the various states that law will probably go into limbo. We feel in Colorado that those sister states who may find occasion to make their diversion in Colorado for use in their state must charge themselves with that water as a part of their division or part of their use of the River. The mere fact that the diversion may be made in Colorado should be no charge against the State of Colorado.

That is going to present difficulties because we are going to have power developed at the point of the reservoir, at the point of the dam. That dam may be in one state and the irrigation part of the water may be used in another state.

We are going to be confronted with another thing and which in my opinion is one of the most serious. Up to this present time, the projects that have been built have been constructed with the idea that they would be repayable, that they are economically feasible. Now if you enter into an obligation to repay everything that you spend, you enter into that with serious thought and consideration. We have a couple of pioneer projects in this area, two or three of them--including Mr. Dodd's who came in here a moment ago--as the primary, original projects. We are paying the cost of those projects.

Now then, the Reclamation Act has been amended on the theory that most of the economically feasible projects have already been constructed, has been amended to take in certain other elements. First they took the revenues from power and then the benefits from flood prevention. And then the idea has been growing on the other hand, that even though the projects may not be repayable on that theory, they are of eventual benefit to the country at large and that they will be subsidized to a certain extent. That brings us into the proposition where we get something for nothing.

Now everybody is anxious to get something for nothing. That is going to make the deliberations of this Board more difficult than it otherwise would be. If we build only the projects in these four Upper Basin States that we can pay for, possibly there will be enough water if the Lord is a little more generous than he has been in the past few years and we may not meet this 25 per cent deficiency of water that the Bureau study now indicates.

This Bureau study, of course, is not a complete study. It is a very fine analysis of the situation and it contemplates that there will be other appropriations made--probably small ones but in the aggregate they may be considerable--from this River in addition to these projects that have been set out in the Bureau report.

Colorado expects to carry out its obligation under this Colorado River Compact and its compact and Treaty with the Republic of Mexico. It also recognizes its obligation to the Indian tribes. And we assume that the other states are going to be just as anxious to do that as Colorado.

One other thing we believe will be worthy of mention, it will probably be the idea of Colorado that after a certain amount of this water has been allotted to it by this Commission this water then will be administered by the State of Colorado. Our water we expect to administer. I am not sure that that will be a unanimous idea on the part of the four Upper Basin States, but it seems to us that upon the theory upon which we have always appropriated water that we will undoubtedly expect to administer that portion of the water which will be allotted to Colorado.

We think that it will be contemplated by this Commission that perhaps in the immediate future or as rapidly as possible, some division will be made of this water between the states so that the projects most feasible, most necessary, can go ahead. But it may not result that all of the 7,500,000 acre feet will be divided at this time. That may go into sometime in the future, but we do feel that the Compact Commissioners should divide up the responsibility of furnishing the first 7,500,000 acre feet.

My province is going to be in this meeting to ask those persons from Colorado to make such expressions to the Commission as seem to them appropriate. I think a little bit later probably we will call upon our Western Colorado Congressman, the Honorable Bob Rockwell, but I think in justice to him we should let him have a chance to get his feet on the ground and perhaps call on him after some of you people have expressed your opinions. If we call upon him now, I think I would be deeply grieved if someone had done that to me when I came in.

You people who live in the Colorado area are met here today in order that the Commission may get acquainted with you and you get acquainted with the Commission. This Commission is going to try to do justice between these four Upper Basin states. They don't know you too well. They want to hear what you think about this. And when one of you gets up, a good many of you are going to be at a great disadvantage because unless you have lived with this river fifteen, twenty, thirty years like Mr. Wallace has, there is a lot of past history--water that has gone over the dam--that you are not familiar with. But don't be afraid to express yourself nevertheless because this Commission is only made up of human beings. They don't think there isn't any chance you are going to overlook something. You may have the rights and equities of this situation and the necessities of the case that may be of help. In other instances you may express something they have heard a thousand times. Don't let that worry you.

We have men here from Southwestern Colorado, Western Colorado and Eastern Colorado. You all recognize that under the terms of the Colorado River Compact it was contemplated not that this water should be divided between the natural basins of the seven states; but that it should be divided between the seven states in order that it might be used in and out of the Basin. If it wasn't for the fact that the transmountain diversions, transbasin diversions, had become so simple and apparently practicable, we would not have this deficiency of water problem, but we have it, had it since 1922 when this Compact was first drawn up and we are not expressing any thoughts between basins today. This is just in order that the Commission may have the thoughts of the Colorado people in the division of this water between these five states. Arizona takes advantage of a portion of this water; primarily it is four Upper Basin States.

With that explanation, Mr. Chairman, may I call on some of these people, or would you prefer they act spontaneously?

THE CHAIRMAN: Just as you like, Mr. Smith.

MR. SMITH: I don't know whom to call on first but the closest man to me, who is a good exponent of his position, is Mr. Ed Dutcher. Ed Dutcher is a member of the Colorado Water Conservation Board. He is an attorney in the City of Gunnison. He will have some ideas with reference to this River and we might just as well start with him at the top of the mountain.

MR. E. L. DUTCHER, GUNNISON, COLORADO: Mr. Smith, Mr. Chairman, Members of the Commission, I hardly knew that I was going to be called on to start out this morning. I don't know that there is anything particularly

to be said on behalf of the Gunnison watershed.

We of the Gunnison area have been watching the proceedings of this Commission very carefully. We are much impressed with the manner in which they have proceeded and are going to proceed in the future. I want to say this with emphasis, and that is that we have implicit confidence in the Commissioner of Colorado, Judge Stone, who happens to be a representative of our area. We know that with Judge Stone sitting on the Commission the Western Colorado people are not going to be sold short when it comes to the drafting of this Compact.

I think I can conclude these few remarks with this one suggestion, and that is that in dividing the water among the various states in the Upper Basin, we should keep in mind and always be mindful not only of the present and the prospective uses, but I feel as though we should take into consideration, at least, prospective uses that are not now known in the division of this water.

In other words, we have projects that have been planned for us by the Bureau of Reclamation and other agencies which are classed in the category of known projects which are potential users of water. There are, however, certain projects that might come up ten to twenty to thirty years from now that are not known to any of us at the present time. I remember approximately a year ago we presented to the group in Denver at the time the first Colorado River Report was presented by the Bureau of Reclamation this one suggestion, and that is: Because of the fact that the Forest Service and other grazing agencies have been curtailing the allotments on the range, that some of the cattle users and the stockmen felt that the time was ripe to ask for water for pasture purposes on the hillsides. Now that is a new use of water. It's a new use because it has never been done before. That suggestion met with very favorable response.

I feel that there may be other uses in the future for this water in the various states, and particularly in Western Colorado, that are not now known to any individual or any group of individuals. And in dividing this water, I think that we should try to agree upon an arbitrary figure and percentages of water for the various states which might cover these potential uses which are not known by mankind at the present time.

After all, this compact is going to affect our grandchildren. It is going to affect our children in future generations and we want to try to protect them as well as protecting ourselves.

MR. SMITH: I am going to spot around this River more or less and I think we might well hear next from a man who lives pretty well up what we like to call the main branch of the Colorado River, Judge Hume White of Eagle, who is a member of the Colorado River Conservation District. Judge Hume White of Eagle on the main stem of the upper river.

JUDGE HUME S. WHITE, EAGLE, COLORADO: Mr. Moderator, Chairman, Members of the Commission: I might say that our moderator has told you a good deal about the members of this Commission that he knows, particularly Tom McClure and his time with Dan Hughes, but I think he forgot to mention State Judge Hannett, Tom, and he isn't here. We miss him. I won't go into details on that because that was when we were trying to get together and know each other to find out whether we had cherries or what we raised.

You gentlemen have got a job before you and you know it. Nobody has to tell you that. It is a big job. First you have to agree among yourselves and that has got to be referred back to the states. Then it has got to be ratified in the state legislatures and then I believe by Congress, is that right, Judge?

COM. STONE: Yes.

JUDGE WHITE: And finally signed by the President of the United States, is that right?

COM. STONE: Yes, approved.

JUDGE WHITE: Approved, not vetoed. Now it occurs to me that this Commission first will have to determine the facts and there are many, many facts. I think that is largely an engineering question. I don't think it is a question for a layman; it certainly isn't a question for me.

And speaking of that I want to say that I have had a great many years now, in and out, trying as well as I could and still making a living, studying water and water conditions in the Western States, the Upper Basin particularly. Occasionally I have had a good deal to do with the Lower Basin.

I remember many, many years ago when I was first admitted to the Bar in the State of Colorado. I was studying water law. A lawyer came up to me, a good one, and says, "Why are you reading that? Why," he says, "it's all codified. You have got a code," he says, "all the water law, that is there. All you have got to do is read your code and a little procedure and you have gotten all the water law." That was a good many years ago, about 1913.

Since that time with all my studies and attending meetings and trying to remember as much as I could, I find now that I know practically nothing about water or water law or anything else. It is changing. And I think this Commission will have to realize that and understand that; and then, secondly, get the facts, the known facts, and if they can, as much of the unknown facts as they can.

That is going to be a big job. It can't be done over night. It can't be done, perhaps, as quickly as the Commission would like to have it done and the United States Government. Now you can do a thing and do it fast and get something through, but after you have done all that work if it isn't ratified by the state legislatures and the different powers that be, you have wasted your time and you have wasted your work, haven't you?

Now I am a believer in state rights, and I think the water laws and the rules and regulations of the different states it should be understood by this Commission are not in harmony in each state. I think each state's code and the rules and regulations and the things they have set up for their own protection should be understood and thoroughly understood, and before any compact is finally prepared by this Commission for the ratification of the different states, you should have that in mind. I think that is essential.

There are many uses, as Mr. Dutcher has told you, that are new and there are going to be others discovered and used for the use of water. It isn't all the little irrigation ditch that we have now. There are many other uses for it.

I don't think we understand the value of this water to the state and to the basin and to the Nation and to the Republic of Mexico. Nobody can put a value on it.

Now we have years of drouth and then we have years that we seem to have more water. Delph Carpenter was mentioned here today. I knew Delph

Carpenter very well in 1922, particularly in the year 1923. He assured me at that time, and he meant it, that we were certainly protected in the Upper Basin States by agreeing to furnish only 7,500,000 acre feet at Lee Ferry. With the figures today, I think the engineers will find that maybe Delph Carpenter was mistaken at that time and it is going to be a job to furnish that amount of water or ten times that amount of water averaged in the ten-year period.

If that is true, we have got that compact, we have got to carry that out, we have agreed to it, that is done, that's true. I think this Commission should think very seriously where that water is coming from, who is going to deliver it down there, and how it is going to be delivered. That is a serious question. How you are going to do it, I don't know.

But Silmon Smith has outlined this thing to you most thoroughly and Dutcher and others and you people I know know more about it, Mr. Chairman, than I do. I am just calling attention to the few facts that occur to me.

I do think that an equitable--and when I say that I mean "equitable"--agreement can be arrived at because you are reasonable men, you are going to use reason, and you are going to meet around the table when you haven't got a crowd and you are going to try to work these things out. Each one of you have a lot to learn; you know that. If you will do that and work hard and get your facts, I believe an equitable agreement can be arrived at with the advice of your engineering staff and the advice of your legal counsel and with your good common-sense as Commissioners, arrive at an agreement that will be equitable to all of the states--not any one taking it all, being the hog, the dog in the manger.

If that can be worked out you have taken a step forward that will make history not only for our generation but for our children and our children's children and their children--goes down the line--unless in the meantime we have a revolution in this country and everything is thrown up and gone. And unless these things are worked out that way that very thing could happen and it is a serious question.

We have every confidence in Judge Stone. He knows this problem better than anyone I know and the problems generally. I know Tom McClure has had a great deal of experience and you other gentlemen I am not so well acquainted with. But I do believe that you can work out such a compact and I believe you will but it must be just, it must be equitable and the rights of the states must be safeguarded, and unless those things are done, state laws recognized, Senate Document 80--unless those things are done, you can prepare a compact but watch out when you meet your state legislatures and try to get it confirmed.

Now I thank you and I have taken up more time than I intended.

MR. SMITH: Thank you very much, Judge White, and I hope you will permit me to correct one thing you said. You mentioned beginning the study of irrigation law in 1913; if I recall it correctly, you started about 1911 because I think I was doing it with you.

JUDGE WHITE: That is right. I graduated in 1911.

MR. SMITH: And I would like to correct the Commissioner speaking of our friend, Judge Stone, as from Denver. I intended to enlarge on that some-time ago. We have never admitted Judge Stone belongs in Denver. He is a resident of the City of Gunnison, temporarily messing around over in Denver and Boulder. That is one reason that we like this Commission so well, because Colorado has such a good representative on it.

Now in dodging around this group I want next to call on Mr. Dan Hunter. Mr. Dan Hunter lives down in the southwestern part of Colorado. He and some of his friends are here and unfortunately Judge O'Rourke was unable to attend. Judge O'Rourke represents that part of Colorado on the Colorado Water Conservation Board. He isn't here but he has a splendid understudy in Mr. Dan Hunter.

Mr. Hunter, will you come up here and express yourself, please?

MR. DAN B. HUNTER, DOVE CREEK, COLORADO: Mr. Moderator, I feel that I am not equal to the occasion to stand before this august assembly and offer advice to the gentlemen who have gathered around this festive board this morning. But I represent the Southwestern Water Conservation District and we people of the eight counties of Southwestern Colorado feel a deep interest in the waters of the Colorado River from the fact that we supply practically 40 percent of this water from the streams that arise in the southwestern part of our state and flow into the Colorado River.

My people say I have "water on the brain" and I presume that's right. But this morning, in my little town of Dove Creek, we have begun the installation of a water system. Necessarily we have to have water in order to supply our users at Dove Creek, and I am vitally interested in an equitable and a fair division of the waters of the Colorado River. I feel perfectly sure that the gentlemen gathered around this table will be fair and will give us an equitable distribution of this water among the four Upper Basin States and Arizona included. With the advice of the Chairman and the engineering forces, Mr. Riter and others, and the consultations of the various attorneys within the five states, I feel sure that you gentlemen can and will work out an equitable and a fair distribution of the waters of the River of the Colorado in such a way and in such a manner that it will meet with the approval of the legislatures of the various states that are represented.

I feel perfectly sure that you Commissioners will work toward that aim and I feel that you have a sufficient amount of intellect and intelligence to the effect that you will not introduce anything toward the allocation of these waters that you have a doubt would not comply with the free and full consent of the legislatures of the various states represented. Thank you.

MR. SMITH: I think I would be remiss and inappropriate if I postponed any longer calling upon the Honorable Robert F. Rockwell, Congressman from the Fourth District of the State of Colorado, a resident for many, many years of the area up on the North Fork of the Gunnison. I think he claims Paonia as his post office address in case you want to write for some seeds or something.

Bob Rockwell is probably as familiar with water in Colorado as any man in the room. The Honorable Robert F. Rockwell, Congressman from Colorado.

CONGRESSMAN ROBERT F. ROCKWELL, PAONIA, COLORADO: Moderator Smith, Former Commissioner Bashore, Members of the Commission, I am deeply interested in the success of this series of meetings that you gentlemen are holding. I have happened to have followed this program almost since its inception because I happen to have been the Lieutenant-Governor of the State presiding over the Senate at the time that Colorado approved the Colorado River Compact in 1922.

As I recall, at that time Secretary of Commerce Hoover sent a special Secretary out and he met with a group of us in Denver and we went over this problem very carefully. I knew Delph Carpenter very well--his name has been mentioned a number of times. We thought at that time that

this 7,500,000 acre feet of water that was set aside for the use of the four Upper Basin States would be all that we could possibly use.

Time has shown us many problems, many reasons why that was not correct--probably as fair as could be agreed upon--but is not protecting these Upper Basin States; however, we thought they would be protected. As Mr. Will I see over there recalls, and Mr. Carson--I think Commissioner Bashore had withdrawn at that time--and I may say it was with deep regret that the members of the Irrigation and Reclamation Committee in the House of Representatives, of which committee I have been a member the last five years, saw him resign. He was a man who understood the position of Director of Reclamation and a man with whom we worked very carefully, and it was with great regret we saw him withdraw from that, although he has taken this very important position of Commissioner in charge of the division between the states.

But as a result of these hearings that were held there--Mr. Carson attended representing the State of Arizona and a group from California--it became very apparent that in the last sixteen years we have had a considerably lesser flow of water down the Colorado River than anybody ever thought possible. If I remember correctly we only had a flow of a little over three and a half million acre feet of water whereas we have guaranteed seven and a half million acre feet. And it also became apparent when the Reclamation Service went around to decide upon the potential projects in these Upper Basin States that there were several million acre feet of water less than we needed for feasible projects. It leaves a problem here before you gentlemen that is going to require a great deal of careful thought and attention.

I realize as I didn't before these hearings that we are going to have to agree on something pretty soon in the division of these waters. As Mr. Carson knows, California is objecting to Arizona using any more water until there is a division between the states as to how much water each of these seven states is going to be allowed and while, as Mr. Dutcher said, no one knows at this time what the future demand of water is going to be.

Up in the territory that he speaks of, in Gunnison, where I run cattle, they have found that the irrigating of pasture land maybe gives ten times the amount of feed on those pastures that we get just from natural rainfall. It is feasible and up until shortly before 1920 we thought that we could develop that as we wished. If I remember correctly, 70 percent of the water of the Colorado River comes out of the State of Colorado and we thought that all of these hundreds of thousands of acres of land that we have, we could use this water as we saw fit as long as it was within our borders.

Now as a result of this Supreme Court decision which changed the rights of states to the water within their borders, we realize the difficulty of how we are going to develop in Colorado and Western Colorado as we feel is feasible and necessary and still be fair with the other states of the Upper Basin and the Lower Basin.

As a member of the Irrigation and Reclamation Committee in the House of Representatives I want to say that this is a matter that is of the utmost importance. It means the future welfare of all of our Upper States as well as the Lower Basin States because, as Dan Hunter mentioned, in the southwest part of Colorado we have an empire down there that needs development. Potential projects for dams are in the making. But we want to know how much can be done under this compact.

So I just want to present that little picture to you because this situation has changed greatly from 1922, the viewpoint, due to the fact that we realize there is not enough water in that river to satisfy all the development

that we want to make in these upper states, and I urge you to be, as I know you will be, very careful.

I want to say just this in conclusion, that I very much approve of this way of getting at the division of this water. I do not think that any one agency of the Government, even though it may be the Reclamation Service, can come in and divide this water to the satisfaction of all these states. You representing these upper states should agree on what should be done and then it will go before your legislatures and finally before the Irrigation Committee in Congress, and then after that we can hope to get the appropriations to build these dams and development.

But this is probably the most important job that you men ever undertook and I know you will do it as Judge Hume White said, with great care and consideration and fairness. But it is a problem that I don't envy you your responsibility and I hope that you will be able to work something out that will be satisfactory to both the Upper and the Lower Basin States. Thank you.

MR. SMITH: Thank you, Mr. Congressman. Up to this time I have called, I think, upon four men who get their rights from Western Colorado. In order that we don't show any favoritism or distinction between the various parts of Colorado, I am going to call on some gentlemen from Eastern Colorado. I have a number of others that I want to call on later from Western Colorado.

I hope that as these various representatives from the State of Colorado give their talks they try to be of assistance to the Commission. If you have any idea as to how this water should be divided between these four states, express that idea. The Commission doesn't have to adopt it but they would be glad to listen to it.

Now in Eastern Colorado--we used to hate all those birds but we have learned that there are some very fine people up there. I have been astonished what a nice country they have and what good people they have in it, and the man I have been in closest touch with and admired the most and respected greatly--don't get excited, I just picked out one man--this man is a very able person. He is a member of the Colorado Water Conservation Board. He sits right next to me. I am always proud to vote the way he does and always hope he will vote the way I do.

I want to call on Mr. John Dille of the Colorado-Big Thompson Project in Northeastern Colorado. I think he is a member of that project.

MR. J. M. DILLE, GREELEY, COLORADO: Mr. Moderator, Chairman, Members of the Commission: Thank you very much, Silmon, for your remarks.

I don't know I have anything to say that will help this board yet. I am not certain in my own mind the problems you will have to meet in deciding how this water should be divided. Perhaps the best thing I can contribute just now is going back to the days when I first met Mr. Smith, Mr. Merriell, Mr. Delaney, Judge White, and others, when we people from Northern Colorado first began to dream about bringing water over to take care of our shortages in Northern Colorado.

As you all know, this Colorado-Big Thompson Project, which is now under construction by the Bureau of Reclamation, is the largest transmountain diversion--not yet in existence but it is apparently pretty well along in construction after eleven or twelve years. But sitting here this morning I was thinking about some of those meetings we had over here when we were

trying to get acquainted with each other as Mr. Smith spoke. I want to say that we in Colorado over in there feel very proud of the friendships we have worked out among those over here. We want to do everything we can to work along with them and help work out these problems on the Colorado River for the development of the part of Western Colorado here which they are interested in.

I might explain a little bit perhaps--I could to those of you who don't exactly know how that was--what our setup is. But of course, as Mr. Smith mentioned, they were quite perturbed at least when we first proposed taking some of their water, which we hope will be an average of 310,000 acre feet annually out of the 7,500,000 that we may possibly have.

But out of all the meetings and conferences we had and getting acquainted and learning each other's problems and trying to see the picture from the other man's side, we worked out the Delaney Resolution first at the meeting in Denver, I remember, and then it was all finally incorporated in the Senate Document 80--Mr. Merriell speaks of it being a famous piece of paper--and later on incorporated in the Conservancy District Act, which was passed by the Legislature of Colorado, primarily for the purpose of setting up the Northern Colorado Water Conservancy District, which, as you know, contracted with the Government for the construction of the Colorado-Big Thompson Project.

But in the whole plan there I think that we can say that our people in Northern Colorado tried to do anything we reasonably could to be fair and work the thing out on a mutually beneficial basis.

As some of you know, one of the main features of the project is the replacement reservoir, we call it, on the Blue River which has a capacity of 152,000 acre feet of which 52,000 acre feet is dedicated to replacement and protection of the irrigation along the main part of the Colorado River. That feature the Bureau of Reclamation have completed. It has been in operation and the power plants there have been producing power for about three and a half years now. It has worked out very well during the war period in taking care of the power around Denver.

We took over other obligations--I mean, the Senate Document 80 and all the other official documents set up the principle that this diversion is to be attained without any interference with present or future uses of the water of the Colorado River. Furthermore, we took over the obligation of compensating Grand County to the extent of \$100,000 for the interference that there might be with their tax revenues on account of using some of their branches up there for reservoir sites.

Beyond that there is another clause in a paragraph of Senate Document 80--I just happen to remember--which provides if it should ever develop--which we hope it won't--the Upper Colorado River States are called upon to take care of a deficiency in the delivery of water at Lee Ferry, the diversion of the water to the Eastern slope will have to be shut off before any of the present or future uses on the Colorado River will be affected.

So I just mention those things to indicate to you what the situation is about these transmountain diversion projects which we are trying to work out in Colorado on a mutually beneficial basis such as our Colorado-Big Thompson in Northern Colorado. I think the Bureau of Reclamation, the people here, Mr. Larson, this district along with our district, are trying to work the whole thing out to get the best thing we can for Colorado, of what we are entitled to as the uses of Colorado.

Beyond that, as to the problem of how this water will be divided, we want to keep informed as to how the matter is working out, and we of course

depend largely on Judge Stone of our Water Board to guide us on those things. And we will try to keep posted ourselves and give the best that we are able to in helping the Commission work out these problems. Thank you.

MR. SMITH: Thank you, Mr. Dille. I like to think of this Colorado-Big Thompson as an example of what can be done when folks get around the table and try to work out something to their mutual advantage. I think the same principles can be applied to the division of this water in the four states.

I made one terrible mistake in the early stages of the Colorado-Big Thompson Project. They had not yet made up their mind they could do this when Mr. Dille came over one day and I showed him a little country. I used to have a ranch by Palisade across the river on a high promontory that looks down on the river. It happened to be early spring when there was a high flood. I took him over there and let him look at the river. He didn't know there was that much water in the river. It was a mistake; I shouldn't have let him know about it. Unfortunately it doesn't run very long.

I am going to call on Mr. Glenn Saunders, who is the Assistant District Attorney for the City and County of Denver, who is very much interested in water, attends all meetings. I have never seen him when he didn't have an idea to express. Mr. Saunders.

MR. GLENN G. SAUNDERS, DENVER, COLORADO: Mr. Moderator, Gentlemen, the City and County of Denver of course has a very large stake in the development of Colorado, the whole state. It is the capitol city and the welfare of Denver is intimately tied with the welfare of every section of the State. In a sense, Denver is, we may say, a parasite as all cities are. Cities do not produce the wealth upon which we live; cities distribute that wealth. And unless the portions of the State which produce wealth prosper, Denver as a distributor will not prosper either. Therefore we are anxious that the welfare of the whole state be conserved.

When the appointment of a commissioner for Colorado for this work was up, a number of names were suggested as we all know. The thought that there might need to be several commissioners was brought out. The people in Denver had so much confidence in Judge Stone, knowing full well his antecedence, the possible bias on behalf of the Western slope, we had so much confidence in his honesty and fairness, we joined with others in recommending that he be made the Commissioner from Colorado. We have full confidence in his integrity and his intelligence and ability to execute that integrity by fairly representing Colorado here. Therefore I believe that the large population centers which are in Eastern Colorado, represented by Mr. Dille's group, the group from which I come, will back the actions of this Commission recommended by Judge Stone because we have great confidence in him.

Now their confidence in Judge Stone might also be an indicator to you on the Western slope that we have confidence in your fairness, too. As Silmon Smith has said, we have gotten better acquainted in more recent years and some of the antagonism that used to exist we are dissipating because the Western slope will prosper, too; as Denver prospers and the Eastern slope prospers. We all win or lose together.

Now as to this particular meeting here, I would only emphasize this fact: The pre-existing rights to water, which I haven't heard yet mentioned, must be protected at all hazards. The City and County of Denver is utterly dependent not only for its future growth but the continuation of its present existence upon the diversions of water it makes from the Colorado River. Approximately one-third of our present uses come from this river.

From the standpoint of the national defense, Denver is becoming a more and more important military center. Because of our inland condition it is recognized that the Arms Plant, the Chemical Warfare Plant, and the West Point of the Air which is being developed at Denver, the Air School, are permanent military installations essential to the protection of this country. I think none of us is so naive as to believe that the millennium is yet here. We are talking about working for international peace. It hasn't yet arrived. For many years to come our greatest protection we all know is going to be in our ability to defend ourselves against aggression. Denver is a key unit in that.

A great plant has been built for chemical warfare at Denver. That plant alone when operating to its fullest extent will require one-third of all the water that Denver uses. Now it has never operated to full capacity. It means that the demands on our Denver water system for national defense may be greatly multiplied at sometime. These are not theories; they are actually existing conditions.

These waters that we now use must be protected. We have no other source of water than the Colorado River. We expect to develop this water and use it in a manner which will not be injurious to the Western slope of Colorado. Mr. Potts, our water rights engineer who is present here, jokingly told Mr. Merriell he still had 300,000 acre feet in his reservoir. The reason is that that is water Denver has impounded for use when demanded by the Western slope and not a credit, which will bring the greatest possible benefit to the Western slope.

We wish to point out to the Commission that we in Colorado in the case of the Grand Lake Project and in the case of Denver's present diversions are quite able to work out our internal problems satisfactorily and will do so. We have great need of water for not only present uses but our future development. We have fullest confidence in our Commissioner, will back him to the fullest extent, so we hope you will listen to him and realize that he is truly our representative and expresses our wishes.

MR. SMITH: Thank you, Mr. Saunders. Mr. Commissioner, may I call upon one man before you adjourn for lunch? I think it would be appropriate at this time to call on Mr. Harry Potts, Water Rights Engineer--did you say, Mr. Saunders? I think that is the official title. Mr. Potts and I used to view each other with alarm--at least I viewed him with alarm. I don't know whether he was responsible for the whole idea that Denver would require a lot of Western slope water, but we couldn't agree. However as time goes on we have seen more of each other and I would like to hear Mr. Potts' expression.

MR. H. L. POTTS, DENVER, COLORADO: Mr. Moderator, I am surprised to be called upon to make any remarks.

MR. SMITH: I am paying you an honor.

MR. POTTS: Thank you. An engineer is naturally more or less at a disadvantage when he attempts to speak before a collection of attorneys and judges and other representatives of the profession.

I have had the pleasure, I will say, of meeting with many of the Western slope men since the City of Denver began diversion of water through the Moffatt Tunnel in 1936 and our associations have been very pleasant. For many years I have known that you didn't raise cherries down here in the Grand Junction District although I have lived over on the other side of the Hump most of my life. I know that you raise peaches down here and the only thing that I might say is that I wish we could get more of the first grade peaches in Denver

and you didn't ship so many of them East. I think they send us most of the culls.

The last two or three years through Mr. Morriell and your Division Water Engineer, we have been fortunate enough to be able to make some substantial deliveries of water to the Colorado River to help top out and furnish some supplemental water to the orchards in this district. And as Mr. Saunders told you, we feel perfectly safe in having a resident, I believe you said, Mr. Smith, of the City of Gunnison, as a representative of the entire State of Colorado. We feel that in approaching this division of the Colorado River it must be done with a full spirit of cooperation, and I can assure you that we are ready at all times to cooperate in any way possible.

I think that I might say that there is no real necessity for viewing with alarm the river flows in the last few years. If we can believe the studies which some of us have carried on we find that on the Eastern slope at least, we entered into a drouth cycle in the year 1923 and we have yet to come out of it. I know by comparison of my tree ring studies with those of more competent men down at the University of Arizona, that the records of the South Platte follow very closely the records of the Rio Grande and also the records on the Colorado River. We now have a record over there of some 650 years where there have been various periods of drouth during that time. But the old law of averages is bound to bring the other extreme at some time or other, and I do not feel that we are facing any calamity because we have had a few years of drouth.

MR. SMITH: Mr. Commissioner, at what time do you wish to adjourn? Shall we proceed now or--(Confers.) Suppose we proceed for another half hour if that is agreeable. You are too late to get to the first table now anyhow.

I would like to call on Mr. C. J. McCormick at this time. Mr. McCormick has for some ten, fifteen, twenty years had the Orchard Mesa Irrigation District on his soul and conscience. He has been secretary during that period. He is one of these people who know what it is like when the water runs out because that District feels a water shortage. It is easier for him to look to the time when the well runs dry than it is for you fellows to where it is only high water. Mr. McCormick.

MR. C. J. MCCORMICK, GRAND JUNCTION, COLORADO: Mr. Moderator, unfortunately I am not like Mr. Smith and some of the others. He tells about his friends who were in school with him and various things of that kind. My mother was rather old-fashioned and she had the idea that only the weaker ones, the ones who couldn't do very much manual work, should be sent to school. My brother was kind of delicate so he got the schooling. But one day he was sick and Mother had the idea that school was like a thrashing machine crew, you had to have a full crew or else you couldn't do any work, so she sent me to school that day.

Being brought up on a farm, when I came to Colorado I thought maybe I could reform, but I wasn't able to do it. I had to still stay on the farm. However, the neighbors over there sort of concluded that I was a good goat, so they put me on the Irrigation District Board because the District was bankrupt and they knew it and I didn't. So like a chump, you know, I started to straighten it out. My hair was pretty dark then and I had a lot more of it than I have now. But I found out we were bankrupt after a while when we couldn't get money to pay our bills. So eventually we prevailed upon the Bureau of Reclamation to come in and take away some of the things we had in order to give us a little water.

Now I can't give you very much advice. Being a farmer I diversify the farm. I plant some corn, some sugarbeets and some onions and a number of other things that grow very successfully here. But it seems to me that our problem might be similar to the farmer's problem.

The farmer has a definite expense. He must pay his taxes and he must pay for his help. We have a definite charge or expense in delivering so much water at Lee Ferry.

Now if the farmer can produce money from his different crops, he naturally is going to take from those crops a percentage to pay his definite expenses. If he had four fields it would seem to me that he would figure that the products from those four fields should share in the definite expense that he has to bear. So that as I look at this, the products of these Upper Basin States should share in this definite debt which they have on some basis which probably is proportionately or something of that kind.

In my farming experience I try to have left a little money over my definite expenses. I am just like the rainfall; I have those periods of drouth. I had them a few years ago. Just recently I have had the other kind. I don't know how long it will last; of course we hope it will last indefinitely, but they haven't in the past and I don't look for it in the future.

But one thing that I would just like to leave with these Commissioners is that we produce water. My fields produce crops that I sell and I take a proportion of those crops to pay my definite expenses. What I have left over I divide up among the family. Of course the wife gets the most of it because she does the most of the work. But that's the only problem that I see for these Commissioners is to determine how much water each one of these states must deliver at Lee Ferry. Thank you.

MR. SMITH: Before going up into the Montrose and Delta area I am going to call upon Mr. William Sullivan at this time. Mr. Sullivan is Superintendent of the Grand Valley Irrigation Company, which used to be written up in the books as the most successful irrigation project in the West. It is a pioneer. Ever since it went through its first bankruptcy it has been one of the best systems anyone has ever known of.

Mr. Sullivan has worked upon that from the beginning and has directed it during the last few years and is more familiar with the peculiarities of the Colorado River, I imagine, than any of the rest of us. He has seen this river when it was so big you couldn't do anything with it, and he has seen it when there wasn't any of it. And it is those thoughts that impress upon us this obligation which correlates this division of water. I am sure Mr. Sullivan can give us some worthwhile thoughts.

MR. WILLIAM J. SULLIVAN, GRAND JUNCTION, COLORADO: Mr. Commissioner, I have been on the Grand Valley ditch some forty years--I am not going to take up much of your time--but on this dry circuit of the water, up until some fifteen years ago we weren't bothered at all about getting water out of the River. Some fifteen years ago we had to put in a diversion dam and since that time every year, I believe, there has been no water going down the River below our headgate.

I think Mr. Merriell would be in a better position to tell you of our water troubles than anybody as he is our consulting engineer. I think that is all I have.

MR. SMITH: Thank you, Mr. Sullivan. I am going to call on Mr. Bill Dodd at this time. Mr. Dodd--William Dodd I think they call him--is the

President, I believe of the Uncompahgre Water Users Association, is that correct?

MR. DODD: Yes.

MR. SMITH: He is very much a citizen in the upper middle Gunnison River. He attends all the important meetings. I have sometimes thought he was a New Dealer--I am not sure he is. I have learned better. But wherever they need a man of ability they generally call on Bill Dodd. He demonstrated that beyond any peradventure of doubt by putting all his farm equipment on rubber, the first man to do it.

MR. WILLIAM J. DODD, DELTA, COLORADO: Moderator Smith, gentlemen of the Commission, and gentlemen: I am not very much elated over that introduction. After all, when I heard Mr. McCormick called on, I rather thought that I wasn't entirely alone. I am only a farmer and a stockfeeder. I very rarely attend such gatherings as this and so thought a while ago that I was only a farmer amongst judges, attorneys, and engineers. I thought I was out of place and I am still pretty much out of place.

I talked to Dan Hughes this morning. He probably could have assisted this Commission and given some advice which they might have carried into their deliberations with some effect. But I spend most of my time in the fields and around the corrals. I am sorry to say that while I have read much concerning the problem of the uses of the Colorado River water among the seven states, I haven't studied it very carefully. When Mr. Merriell wrote me concerning this meeting, I had thought only of coming down here and learning what was in the offing.

While sitting here during the past few moments--having gotten here a little late and missed some of the earlier talks that may have been of benefit to me--I am impressed that this is probably a greater problem for these gentlemen than I had in my mind anticipated before as things were brought up. Of course, this obligation to deliver so much and take what is left makes your problem greater than it would have been if you were dividing the water in the river only. Of course, assuming that our existing rights in all these states under our water laws will be protected, then of course you are dealing with a problem for future uses only.

While I can't give any advice, I could just picture that probably in going at that, in the solution of the matter between the states of its division of what remains, is rather a visionary thing in that you haven't too much tangible stuff except what has been worked up by the engineers and the imagination of what uses will be in the future. That contemplates, of course, not only probably our irrigation and domestic uses as we see the same today, but you get the picture of twenty-five, fifty, a hundred years from now, other uses that will develop, will come about. Probably then you will be consulting these visionary fellows who are necessary to us, such as architects, of the future in any field.

So while it is very clear to me that we should get at this thing and, since it is important to our states here that we know to what extent we each share within the bounds of the water above what we must deliver below and current uses depleted, we shouldn't delay this matter any longer than is necessary to get the job accomplished. However, I can believe it will probably take some two or three years or more.

It is very important because there are two factors that in my mind are somewhat conflicting, that will ever more be in your minds, or will be when it gets back to the states for consideration. That is, of course, the

uses that you will ascertain that the different states have of whatever apportionment is made to that state. And on the other hand, of course, the developed communities in each state are interested in their maintenance and increased use, as mentioned by the gentlemen from Denver, because of our interest in the community. Each one of us back in our separate areas are interested in its development. Our total expense, taxes and all, is thus tied up and either decreased or levelled somewhat by its enlargement and better development. There is always that human element amongst us, the consideration that the all-important thing is our relationship among peoples, their status in the states interested.

I don't know that there is any advice that I could give; only such rambling present thought ideas. I haven't prepared for any remarks on the subject.

MR. SMITH: Mr. Commissioner, may I at this time call upon Mr. Harry Gueno, a prominent attorney of the Delta-Gunnison River area, and an attorney, I think, for the Hotchkiss Project, is that right?

MR. GUENO: The Paonia Project.

MR. SMITH: Mr. Gueno, Mr. Dodd was complaining a little because we weren't putting in enough lawyers. I am going to change that now by calling on Mr. Gueno, who customarily deals in "fairness and equity", and perhaps he can tell us how we can equitably divide this river among the four states.

MR. HARRY W. GUENO, DELTA, COLORADO: Thank you, Mr. Smith. Gentlemen of the Commission: I am impressed today and I think some of us should voice the debt of gratitude we have to the lot of the gentlemen here who have done the pioneer work in carrying out these projects and in preserving the rights of the State of Colorado and the other states in the division of the water of the Colorado.

I think I, like most of the citizens, have just let it rock along believing that the water was there and we had it. We all know that that is not the case and that there must be some equitable distribution of this water to the different states involved. And in that connection I believe the people of the Western slope are perfectly willing to carry out their contract to furnish at Lee Ferry their proportionate part of their water. In fact, the agreement is made and the Compact entered into and I don't believe that the people here will crab about carrying out their obligations.

It seems to me that the most concrete advice that has been given this Commission today is by the man who claims that he doesn't have much education, Mr. McCormick. When he says that he apportions a part of his revenue from his farm for the payment of taxes, for water assessments and overhead expenses, why, we all know that. Those are things he has got to do.

And it would seem to me that this Commission in apportioning the water to the states, the representatives of the several states, will realize that obligation and will apportion or contribute their proportionate share of the water that arises in the several states to the Lower Basin States. What your job is going to be, of course, is to determine what is equitable apportionment.

I am wondering, listening to this problem, hearing the comments on this problem, whether Cliff Stone here is not going to be up against a kind of a proposition that Secretary Byrnes is with the United Nations. Now I hope, Cliff, your job won't be quite as tough or that you won't have any Molotovs to deal with.

But in conclusion I just want to say that I am sure the Western slope approves of the work of this Commission and we are all behind Judge Stone one hundred percent. Thank you.

MR. SMITH: Thank you. Mr. Commissioner, I think that it might be advisable to adjourn at this time until two o'clock. There are a number of gentlemen whom I wish to call upon and I hope you will all come back and bring others with you.

During the noon hour, Members of the Commission, undoubtedly some of these men will figure out whether to tell you to divide this 7,500,000 acre feet by four as equitable or whether to divide this 7,500,000 acre feet by the share each state produces of this water or by the share that each state wants to assume to supply the 7,500,000 acre feet at Lee Ferry. After dinner they probably will enlighten you.

THE CHAIRMAN: Gentlemen, before we adjourn the Chairman would like to make one or two observations.

I believe the speakers pointed out the hurdles this compact will have to jump. As I recall it, it was not mentioned that after it is ratified by the legislatures of the states it will have to be signed by the governors and any governor can veto.

Mention has been made of a shortage in the Colorado River and I believe Congressman Rockwell intimated that he and Delph Carpenter and others overestimated the capacity of the River at that time. We must bear in mind that the projects which were contemplated by those men at that time were projects feasible under the then existing reclamation laws. It makes a vast difference when you consider a project that is feasible under the Reclamation Law as it existed at that time and projects that we are talking about today. We are talking about Basin-wide developments of large magnitude not necessarily feasible under the Reclamation Law, similar to those in the Missouri River Basin.

Just one other thought and I am through: You have heard and read a lot about the authority idea in the United States. I don't suppose many of you people here in this room are in favor of the authority idea; perhaps some of you are. One of the best arguments used in favor of the authority idea is something like this: that the states are very jealous of their water rights, they are very proud of their jurisdiction over their water rights; but that when any forward movement takes place for the development of those rights and they get together, they don't do anything but squabble and bellow and kick up the dust and fight and don't agree on anything. As a consequence of that fact the only way you can get these large river basin developments is to have an authority which does not have to pay any attention to state lines but can go right ahead and develop.

You say that isn't going to happen in this Colorado River Basin, people are not going to accept such a theory as that; but in the humble opinion of your Chairman, not as Federal Representative but simply as Chairman of this Commission, the sentiment of the people can eventually turn to that unless these compacts are equitably worked out.

We will now adjourn.

(12:32 p.m. Noon recess.)

(2:10 p.m. Hearing resumed.)

THE CHAIRMAN: The meeting will now come to order. Mr. Stone, you may proceed with the hearing.

COM. STONE: Mr. Smith will proceed as Moderator.

MR. SMITH: Mr. Commissioner, gentlemen, with your permission we will proceed where we left off at lunch. I think we might hear with advantage at this time from Mr. Charles R. Neill of the Paonia Project. I believe he is the secretary of the--you tell them, Charlie, what you are secretary of.

MR. CHARLES R. NEILL, HOTCHKISS, COLORADO: Mr. Moderator, Mr. Chairman, Gentlemen of the Commission: I think I have a fair comprehension of the magnitude of this job that you are confronted with from two angles: One, it was revealed at the Omaha meeting of the Reclamation Association; the other, it was my privilege as a reserve officer to be called up on active duty in 1942 and assist in the developing of the largest army the United States has ever had and an army the size and magnitude of which had never been visualized. I want to say that it was a job.

I have for the past twenty-two years been Secretary-Treasurer of the Fire Mountain Canal and Reservoir Company of the so-called Paonia Project; for the last ten years, Secretary-Treasurer of the Overland Ditch and Reservoir Company also in the so-called Paonia Project.

To digress slightly, last summer a brother-in-law of mine who lives in Philadelphia was out for a visit. After he left my wife related this incident: She said Emerson asked what this country needed most and said she laconically replied, "Water." I guess I have had water on my brain--mind, what have you--for a number of years, and to me water is more than H₂O.

Our primary problem in the north part of the valley of the Gunnison River is supplemental water. These twenty-five years, twenty-two of which I have been definitely connected with them in the matter of developing, preserving the rights, the financing, liquidating the obligations--they have had and do experience many years in which the natural flow has been insufficient to produce a crop the proceeds of which were sufficient to pay operating costs, debt retirement, and such items. With us supplemental water is the thing that will--shall we say--make or continue to hold down to our present level our particular area.

I think perhaps it is known that we have a project before the Reclamation Bureau in the making. This particular year has cost us in our crops a tremendous sum of money, not merely by reason of the--shall we say--fabulous prices received this year, but on a normal yield, a tremendous percent of our apples have not made size by reason of the lack of water. A large area of our hay land did not yield the usual or a normal amount of hay by reason of the lack of supplemental or late water. That to us is the thing that is going to hold us as is or permit our going forward.

We have a large area under either of the two projects of just as fertile land as there is in the State of Colorado or in the West. Much of it is in a raw state yet. Much of it is suitable for the production of grain crops that can be matured with one irrigation in the spring, flood water. Flood water we normally have plenty of, but it is the late stored water that is essential to a further development.

Someone mentioned cherries this morning. I might say that in our valley we produce cherries second to none in the United States, as we do all

other fruit crops. Water is the one thing that is now necessary for the further development of our immediate area.

I have a very clear concept of the magnitude of the job you gentlemen of the Commission are confronted with. To restate some of those statements made this morning, I feel very confident of your impartial ability to arrive at a conclusion that will be written into a compact sustained by the various states, governors, Congress, and the President. Thank you very much.

MR. SMITH: Thank you, Mr. Neill. Your colleague, Mr. Carl Smith, President of your District, asked me not to call upon him for a speech; he said he preferred to listen. But, Mr. Smith, if there is something you subsequently want to say, let it be known and we will listen.

MR. CARL R. SMITH, HOTCHKISS, COLORADO: Mr. Smith and Members of the Commission, I don't believe I have anything to say. I am really interested in learning what is going on here and I don't feel that anything I could say would be worth the time.

MR. SMITH: If you change your mind, let us know.

MR. CARL R. SMITH: Oh, I will, thank you.

MR. SMITH: I would like to call on Mr. Archie Toner at this time. Mr. Toner is Director of the Southwestern Colorado Water Conservation District is that right, Mr. Toner?

MR. ARCHIE B. TONER, FT. COLLINS, COLORADO: That is right.

It has been a great privilege and pleasure to me the past fourteen months to travel the State of Colorado; and in my travels, while it wasn't in line with the work I have been doing, because of my interest in water and the various problems it may bring up, I have been spending a lot of my own time and maybe a little of somebody else's time in going over these different reclamation projects and the areas that they service.

I have been over every section of the State regardless of how small. I have been up all your valleys and all of the remote areas, been over those, and some of those I was over twenty years ago when they were deserts. Today they have water on them and some of our best farm lands are in those desert lands that I have seen in the past.

There is one thing, though, that I would like to take issue with some of the speakers here that have been trying to claim our State Director, Judge Stone. I don't like to think of him as having a home anywhere except in Colorado. He is a Colorado man. We all believe in him and we all trust his judgment because in our long acquaintance with him we have learned to know that he is fair and just in all his decisions and he is working for the State of Colorado.

In the Southwest, as Dan Hunter said this morning, we produce 40 percent of the water that flows down the Colorado River, and we have guarded it, some of us rather religiously, and perhaps sometimes a little bit biased and narrow-minded. After traveling the entire state as I have done the last few months I have taken a different viewpoint.

The turn of world affairs has brought us together. We have learned through our world conflict that the world is small. We must live together and here in the United States we must learn to live together as one unit. We cannot be biased as far as our own states are concerned. We like to see our

states develop and all that but we have got to think in terms of mankind and what developments are going to mean the most to the United States a hundred or two hundred years from now.

We want to see our Colorado State develop to its utmost, but if I am talking to some of the people in my own home town, they see a large amount of water flowing down that river there and they can probably never believe that there ever will be a shortage of water. After this compact is ratified by the legislatures and the governors and the United States Congress, if I can say to those people, "That river only belongs so many percent to you," it will mean a lot to me and to everyone else that is interested in water.

Now you fellows here, the Commission has got one of the greatest problems or perhaps the greatest problem that you have ever had confront you against you right today and God be with you. We all trust you and we know that out of this Commission here will come something that will go down in history as the solving of one of the greatest problems we have had. I thank you.

MR. SMITH: Thank you very much, Mr. Toner. At this time I would like very much to hear from Senator Lou Williams, Montrose County--former County Commissioner as well as State Senator. He is very much interested in Colorado water. Senator Williams.

MR. D. L. WILLIAMS, NORWOOD, COLORADO: Mr. Smith, the Commission, gentlemen: I don't believe that anything that I can say can add anything to what has already been said. I doubt if anything has been brought out here that the Commission didn't already know, and I prefer to just stop there and let them go ahead at whatever they are doing. I believe they know everything that has been brought out.

I come from the River Basin over there, the only one in the Colorado River Basin, I believe, that hasn't had a survey, the San Miguel River Basin. We are in need of quite a bit of development there but it is very small in comparison with a lot of the other developments, and there isn't much you can talk about in the San Miguel area until there has been a basin report made on that river. That is all I have got to say.

MR. SMITH: Thank you, Mr. Williams. We have with us Mr. Sundquist, the manager of the Grand Valley Reclamation Project. I wish you would come up here and tell us how this Commission should divide this water among the four states.

MR. T. L. SUNDQUIST, BUREAU OF RECLAMATION, GRAND JUNCTION, COLORADO: If I could I would be glad to tell them.

MR. SMITH: That is fine. You go ahead.

MR. SUNDQUIST: I haven't anything particular to say. I haven't studied this too much. I can kind of compare my job with the job you gentlemen on the Commission have. We happen to carry water for three or four projects through our canal, and I know when the water is scarce how each project thinks they ought to have so much water. What a job you fellows are going to have in allotting this water to the various states!

Mr. Smith said he could step across the Colorado without getting his feet too wet. I think this summer for about a month you could have sat on the apron of our diversion dam and taken a sunbath without getting wet at all. At times we are pretty short of water.

I can see the importance of allotting this water and the importance

of knowing how much water we need for the projects we have already. When the years are dry our farms are dry and demand more water, they need more water. I have nothing further that I can give.

MR. SMITH: Thank you, Mr. Sundquist. I think said just the right thing because I was next going to call on Charlie Beise. Charlie Beise is the attorney for the Arkansas Diversion Project and I wanted him to hear what you said about that dry river before I called on him. Charlie, can we hear from you? Mr. Charles Beise, attorney for what?--the Arkansas Transmountain Diversion?

MR. CHARLES J. BEISE, DENVER, COLORADO: You name it, Silmon. It is a long-winded name. The name is Water Development Association of South-eastern Colorado--not that that means anything because there isn't too much in a name. I might give you a little bit of an idea of what that project is all about. You see the name in the paper, Gunnison-Arkansas, frequently, and I think maybe it wouldn't be amiss to give the Commission and yourself just a little idea of what we are trying to accomplish.

The association for which I am attorney represents the water users between Leadville and the Kansas Line on the Arkansas River. The proposed project if constructed to the scope and size of the report released by Region 7 to date would mean it was about three times the size of the Big Thompson, roughly twice the size of Denver, perhaps half again the size of the Central Utah, three times as big as the San Juan-Chama. It is roughly 900,000 acre feet of water. That goes into an area in which there is now irrigated in excess of 300,000 acres of irrigated land, one of the richest farming sections--I won't get in an argument with John Dille--but it is one of the richest farming sections of the State of Colorado in which there are critical shortages of water for irrigation.

In that same valley are the second and third largest cities in the State, Pueblo and Colorado Springs. Colorado Springs may potentially get water, possibly, from the City of Denver's project. But Pueblo at times in years past has gotten down as low as a 24-hour water supply. They are in desperate need of water and there remains no water to be developed on the Eastern slope. So this association represents the attempt to encourage the investigation of that project.

Mr. Ben Powell here is the man who has charge of that work on the Eastern slope, and Cliff Jex has been doing the work on the Western slope for Mr. Larson.

Aside from that I think I have a little bit unique position here, Mr. Smith, in that I cut my teeth over in the San Juan. My position was attorney for the Pine River, Mancos and La Plata projects. Then I was with Stu McMaster over in Salt Lake City four years and he taught me what I know about the Government's position in these matters. Now you see I am on the Eastern slope and probably Bob Rockwell will tell you I am a little bit out of line.

MR. ROCKWELL: I do.

MR. BEISE: Yes, sir. Then I heard Taylor's position and it is hard for him to take any other position. So I see this thing in a number of different lights. I see them from the Western slope viewpoint. The Eastern slope wants your water; you want to protect ample water for your now need and what you think you are going to need in the future.

That future equation--I wasn't here this morning to hear any

discussions but it all seems to me that the uses of water are pretty well established. If there are future developments on the Western slope beyond what can be now seen, the same thing is true of the Eastern slope. If there is going to be a future need on the Eastern slope that we don't know about, there will also be on the Western slope, but we are anxious to speed the work of your Commission.

I think that the only comment I can make in passing that would be of any assistance is that in the Colorado River report itself, while it was none of the immediate worries of this Commission as such, transmountain projects seem to be neither visionary nor factual in that report. I think your Commission here, you men, should take into consideration that probably the largest projects in all of the states of the Upper Basin will be transmountain or trans-basin or some other type of project taking water out of the watershed. I think that is true in Utah, Arizona, New Mexico, and Colorado, and I think it is, Mr. Bishop, probably in Wyoming even.

So you do have a difficult problem, indeed, and you must consider not just the Basin itself but the states as a whole. You probably are going to have to take a semi-judicial attitude and not the attitude of an advocate before you men are able to agree between yourselves on any semblance of a decree in one sense that can be entered for the use of water.

I am sure all people here wish you every success and I am sure they are all willing to cooperate in any way possible. Thank you very kindly.

MR. SMITH: Thank you, Mr. Beise. If you hadn't told us how many times you had been fired we never would have known part of it. The way he speaks about 900,000 acre feet of water so casually I think we should get back from fancy to fact and I am going to call on Mr. John Heuschkel, who lives on the River. Mr. Heuschkel is a member of the Colorado River Water Conservation District, a former County Commissioner, and for many, many years interested in the water of the Colorado.

MR. JOHN HEUSCHKEL, GLENWOOD SPRINGS, COLORADO: Mr. Chairman, Gentlemen of the Commission, as I understand this it is the division of water among the Upper Basin States. And I feel--I wish to state that--that each state should contribute their fair share towards the water furnished to the Lower Basin States in its division.

I came into Western Colorado, or my folks brought me here, almost 59 years ago in a basket, before the railroad. I made my home here in Western Colorado, and all I have heard and a big part of what I have tried to do is protect the use of water.

One thing we mustn't overlook: There is going to be a lot of individual development along the rivers and creeks in Western Colorado and I think those should come first. While the reclamation projects are a wonderful thing and are going to be a great thing, but the number that are listed in the report --I wonder sometimes where all the water is coming from. I think that is going to be our greatest problem, to find water for all these projects.

There is a good deal of lost water through seepage in the different rivers and sometimes there will be projects, probably, to take care of that. Another thing, there is a good deal of water wasted through all of our states which will have to be overcome. But I do believe that the individual development should be protected first and then the reclamation projects as they come in the various states should be taken care of. I think need and demand possibly should govern a great deal of that.

I don't know as I have a lot more to say, only I know you gentlemen have a real job on your hands and you have my sympathy. Thank you.

MR. SMITH: Thank you, Mr. Heuschkel. Mr. Commissioner, I would like to make a short explanation. Judge Paul Littler, Judge of the Seventh Judicial District, who is with us and came in only a few moments ago--may I explain, Judge Littler, that we are endeavoring to be of assistance from the standpoint of Colorado in this Colorado hearing on the division of the Colorado River between the four Upper States and that portion of Arizona coming within the Upper Basin. Judge Littler has been familiar with water matters in Colorado for many years, a keen student of water. I hope you will be able to give the Commission some suggestions, Judge Littler, that will be helpful to them. This is one of the few times I can tell the Judge what I want him to do and get the best of it.

JUDGE PAUL L. LITTLER, GRAND JUNCTION, COLORADO: Mr. Smith, I have lived in Colorado most of my life and have been more or less interested in farming and irrigation. I didn't expect to be called on here. I haven't anything particular to add except what we all know, that water is the life of our country and Colorado produces much of that water.

We in Colorado feel that we have some priority in our claims, while we also realize that all of the states below likewise depend upon that water and we must be broadminded enough to share that water with the Lower States. We feel that all water should be put to beneficial use so far as possible and no water that can be put to beneficial use should be allowed to go to waste. I think that will be agreed on by everyone. I assume that it is the problem for the gentlemen here to provide some equitable apportionment between the states which can use the water from these streams.

There is a great acreage in Colorado that is not irrigated that is subject to irrigation by irrigation projects and developments, and we believe that we should look somewhat to the future and allot a certain portion of the water to future development. Thank you.

MR. SMITH: Thank you. Now I am about to give up this job as moderator but before doing so, is there anyone here from Colorado, East, West, or otherwise, who has not had the opportunity to express himself? (No response.) Mrs. Wakefield, would you care to make a talk to this Commission? You have listened very diligently.

MRS. WAKEFIELD: I came only to listen and to learn.

MR. SMITH: Is there anyone that I have overlooked? (No response.) Judge Stone, I have the honor to turn the meeting back to you.

COM. STONE: Silmon, I first wish to express on behalf of the Commission our appreciation of the manner in which you have handled the presentation for Colorado and also to express to all who have spoken our appreciation of those statements. As was said in the beginning, it is the effort of the Commission at these open hearings to ascertain the views of the people within the five states--in this case it is the four states since we are holding no meeting in Arizona--with respect to matters which have to do with the making of a compact. As I sat here listening to your words of sympathy for the Commission and the job we have to do, I became somewhat apprehensive, and yet I believe that we shall be able to do a job--at least we are willing to attempt it.

At the Rock Springs meeting it appeared to me that one of the most helpful presentations, helpful I am sure to those who came to the meeting, was

the explanation of the work of the special Engineer Committee. That Committee is made up of representatives appointed by the Commission and the Federal Representative, Mr. Bashoro. The Chairman of that Committee is J. R. Riter.

I should think, Mr. Chairman, it would be appropriate at this time to call on Mr. Riter for an explanation of the task which that Committee is attempting and the manner in which the work is being done, and if that is agreeable, Mr. Chairman, I should like to have Mr. Riter do that at this time.

MR. J. R. RITER, BUREAU OF RECLAMATION, DENVER, COLORADO: Mr. Chairman, ladies and gentlemen: The Engineer Committee was appointed by the Compact Commission and we work under their direction. As has been explained, a representative from each of the states met in Cheyenne, Wyoming, late in August and worked up a program of work to be performed and then our report was presented at the last meeting of the Commission, which was held at Santa Fe on September 17. The Commission adopted the report and told us to get to work.

You might be interested in some of the members who are on that committee. Representing the Federal Government as the adviser to the Federal Representative of the Compact Commission, I was appointed to be his adviser and the Committee saw fit to ask me to be Chairman of the Engineer Committee. The member from Arizona is R. Gail Baker. Mr. Baker is not present today. Mr. Baker is of the staff of the State Land and Water Commissioner of Arizona.

From Colorado, your Commissioner felt that due to the vast interest which Colorado has in the development of the water resources of this state Colorado should have three engineering members and these are: Mr. C. L. Patterson, who is Chief Engineer of the Colorado Water Conservation Board; Mr. R. J. Tipton, who is a consultant for the Colorado Water Conservation Board; and Mr. F. C. Merriell, who is Secretary-Manager of your Colorado River Water Conservation District, who lives in Grand Junction and who in my opinion has more intimate knowledge of the Colorado River than any one of us, that is, from the standpoint of Colorado.

From New Mexico the engineer is John H. Bliss, who is the engineer adviser to the Interstate Streams Commission.

From Utah the member of the Committee is Fred Cottrell, Deputy State Engineer.

From Wyoming is Mr. H. T. Person. Mr. Person during nine months of the year teaches school at the University of Wyoming. He is also consultant for the Wyoming Compact Commission.

Now we don't limit ourselves to these members. There are other people working with us. For example, in the Denver office of the Bureau of Reclamation pursuant to instructions from our Commissioner, we have one engineer full time and then we have as many assistants as he can use officially. Our Regional Office at Salt Lake City, which has charge of planning and investigations in the Upper Colorado River Basin, has assigned some of their men to work with us on this problem. Through the cooperation of the Salt Lake City Office we also draw upon the services and experience and the records of Mr. Jex, who is located at Grand Junction; Mr. Hedderman, who is located at Durango; Mr. DeLong, who has offices at Kemmerer, Wyoming; and such other help as they are able to give us.

There is present with us today Mr. Jarvis, who has been employed by the State of Utah to assist in carrying out the studies, and there are other engineers assigned by the states as they can make their services available to us. Now so much for the personnel.

One of the first studies to be undertaken is to determine the origin of the water by states. The Engineer Committee felt and the Commission agreed that before the Commission could start dividing up water they must first have factual information on the water that is available and where it comes from.

There have been several discussions here today about the work of the Commission which negotiated the Santa Fe Compact about 1922 and it was stated that they were hampered by lack of records. As a result of the work of that Commission, many key gauging stations have been established on the Colorado River. For example, records were initiated at Lee Ferry on the Colorado River, which is the point of division between the Upper Basin and Lower Basin, in 1922, and those records have been collected continuously since that date.

As a minor detail you might be interested to know that the gauge itself is called Lee's Ferry, which is above the mouth of the Paria River, and then there is also a gauge at the mouth of the Paria River. To determine the flow at the Compact point called Lee Ferry we have to add the discharge record of the Colorado River at Lee's Ferry with the discharge of the Paria River.

The gauging stations have been maintained for a number of years by the Geological Survey at certain key points along the Colorado River and its tributaries. For example, we have a long record of the Green River at Green River, Wyoming, which goes back to the beginning of the century. We have a record on the Green River near the Green River, Utah State Line, which does not extend back quite as far as the Green River, Wyoming record does, but there is a fairly long record there. There is a long record at Green River, Utah, which is near the mouth of the Green River.

The Yampa River, which is one of the principal tributaries of the Green River, which drains a large proportion of Colorado and also some area in Wyoming, has been measured for a good many years.

We have the record on the Colorado River at Grand Junction, that is, near Grand Junction, since sometime in 1890 as I recall--it is about 1895. Of course that measures runoff from the Colorado River which is entirely a Colorado stream at that point.

We also have records of the Gunnison River near Grand Junction for a long period of time. We have a record down at Cisco, Utah, which is one of the key stations on the Colorado River, which has been maintained since about 1922, with several scattered years of earlier record.

On the San Juan, which is a very important stream both from the standpoint of Colorado and New Mexico, we have records, not continuously, however, except in recent years, at Farmington, at Shiprock, and at Bluff.

There are in addition to the main stem stations, so-called key stations, records of varying lengths of time on the tributaries of the Colorado, the Green, and the San Juan.

It seems in more recent years since the states have been thinking about compacting and looking forward to compacting, effort has been made to establish gauging stations near the State Lines. Apparently the States had in mind at sometime a compact would be formulated and as a basis of that compact they wanted to ascertain the runoff from each of the states. However, there are still a large number of important tributaries which are not gauged.

For example, some of the southern tributaries of the San Juan River which drain from New Mexico into the San Juan have not been measured. Many of the tributaries which enter the Green River and the Colorado River from Utah have not been measured. So our job then of determining the origin of water involves a number of studies.

In the first place, we will have to assemble and tabulate all the available discharge records at key gauging stations and on the tributaries near the State Lines. Then the next job will be to extend those records by estimates, that is, we will have to compare them with other stations which have a longer period of record and prepare an estimate.

As has been explained here today, the River is not a constant stream. It does not run the same year in and year out. Some years when we have had high floods we have had as much as 25,000,000 acre feet down at this point of Lee Ferry, which is the outlet of the Basin. And then as has also been pointed out, there have been years when it drops down to less than one-fifth, in other words, less than 5,000,000 acre feet in one year. Therefore, to get a representative sample, we desire to base our study on as long a period as is possible to do so. We are attempting to extend all records back to about 1914.

In the Bureau of Reclamation report which you people have discussed and will have opportunity to discuss and submit your comments on, we attempted to extend the Lee's Ferry record back to 1897. But after examining the records that are available, we felt if we could extend them back to 1914 we could get a fairly reliable period of study. That will be a long-time period. That will be over thirty years, and generally speaking we feel we can make fairly reliable estimates back for that period of time.

Then after we have extended the records at the gauging stations we have, it will then be necessary to make estimates for the unmeasured tributaries. While we don't know precisely how much came from each individual tributary in Utah, we do have records on the main stem above those tributaries and we also have records at Lee's Ferry. Making use of those control points and comparing records at the tributary gauging stations and at Lee's Ferry, it will be possible to have some measure of control on the estimate.

In making those estimates we are planning to attack the problem from a number of approaches. We know basically the runoff originates from rainfall. We are compiling all of the rainfall records available within the Basin and will attempt to find a relationship between rainfall and runoff, or an indication of a relationship. Mr. Jarvis, who has been working in Utah where that problem is particularly acute, has developed some preliminary relationships which indicate that there is an indication. That is one approach.

Another approach, we will attempt to estimate the runoff from the unmeasured tributaries by comparing with other tributaries which are measured, and we will attempt to compare the physical characteristics of the two watersheds.

Then after we have the records built up as to the amount of water there historically, we will have to correct that to determine the amount of water that would have been there before irrigation development was made. In other words, we do know from experience that as you irrigate land, regardless of where it is in the Basin, part of the water that is used to grow those crops is consumed, is used up consumptively by transpiration losses from the plants.

The Bureau of Reclamation in our studies for the purposes of that Colorado River Basin Report has made some estimates of what the present and past uses have been. That is an estimate which is based on the opinion of the Bureau

any of us have any crystal ball gazing facilities so we can look into the future with any degree of certainty. We can only review the past, and be guided by experience.

There were statements made back in the early days when we first made surveys on this river predicting that anybody who took a look at it would forget it and have nothing to do with it. Well, of course time proved that statement extremely false.

It is a big job, and, as I say, we must approach it cautiously if we plan to take care of the states in their present, prospective and future uses. It's a problem that must be given full consideration and long consideration as I see it.

I don't believe there is anything else that I can add to what Judge Stone said this morning. We realize the problems that we have and it is in meetings like this that we get what you might call a ditch-bank view of the line of thought the people who are the actual users have in mind, so that in our deliberations we can keep those facts and problems in mind.

COM. STONE: Mr. Charles Carson, Commissioner for Arizona.

COM. CARSON: Judge Stone, gentlemen, I think we realize the seriousness of the task we are undertaking and the responsibility which rests on us. As I see it, the Colorado River Compact did divide the water between the Upper and the Lower Basins, and all of us desire to live up to in all respects and respect the Colorado River Compact, but that Compact did not undertake to divide the water between the states of the Upper Basin nor between the states of the Lower Basin. However, through the years by a series of acts of Congress and the California Limitation Act and contracts, the water allocated to the Lower Basin has in my judgment been effectively divided as between the states of the Lower Basin. That leaves then this task which this Commission undertakes to apportion the water between the states of the Upper Basin.

The Upper Basin, of course, has not used its apportionment or anywhere near used its apportionment. I would like to emphasize that the Upper Basin States altogether have now used somewhere in the neighborhood of 2,000,000 to 2,500,000 acre feet of the apportionment to them of 7,500,000 acre feet. So that when and if apportionments are completed between the Upper Basin States and projects developed, we of the Upper Basin--and we are part of the Upper Basin in Arizona, a small part of Arizona is in the Upper Basin---can look to an expansion of use in the Upper Basin of probably three times the present use.

Now taking the Basin as a whole, it is one area, interrelated, and what is good for part of it is good for all. If we can work out fairly this Upper Basin Compact so that the development of the use of water in the Upper Basin as well as in the Lower Basin will go forward, this area of the Colorado River Basin can use, as I say, nearly three times the water it is now using and support three times the population and three times the wealth. We can bring it about if we work together and that is the spirit with which this Commission is going to work, trying to work together for the benefit of all to apportion water equitably and fairly with injury to none and benefit to all.

COM. STONE: Mr. L. C. Bishop, Commissioner for Wyoming.

COM. BISHOP: Mr. Chairman, Judge Stone, I prepared my statement and had it written so I won't have to ramble around so much.

To date Wyoming has received no allocation for construction of irrigation works in the Colorado River Basin. We have only received a minor portion of our share of investigational work by the U. S. Bureau of Reclamation. We are on record as advocating the stoppage of all construction work in the Upper Colorado River Basin until a compact is agreed upon for division of the 7,500,000 acre feet of water allocated by the Colorado River Compact to the states of the Upper Basin. We have reason to believe that the percentages of water produced by each state as being compiled by our engineering committee is not a fair basis for equitable division of the water and of consequence we favor division of the water by this Commission with the factual information contained in the Colorado River Report of the U. S. Bureau of Reclamation and other available information. We object to states with much larger congressional delegations than we have securing allocation of funds and with these funds building projects that use water for which they establish a priority by use. This plan, if continued, will result in our State receiving no water at all.

Being located on the extreme headwaters of a principal tributary of the Colorado River we have priority of position but we know how the courts rule on prior use as against position and we are quite anxious to establish a priority by compact to use our share of this water at such time as we can secure funds to build the projects.

In all, we have more than a million acres of irrigable lands in the Colorado River Basin in Wyoming and about half of it is suitable for development. If potential development is used as a basis for the division of the water we should have more water than it is physically possible for us to use. We are not going to be unreasonable in our demands for water and we do hope the other states will also be reasonable and that this Commission can complete the negotiations within a reasonable time. Under our Constitution we are entitled to all the water within our borders but we are willing to divide with our neighbors on an equitable basis.

Frankly, we are deeply concerned about the large transmountain diversions being built in Colorado and proposed in Utah. We propose some in Wyoming but are very willing to agree to discontinue their use in case of a shortage at Lee Ferry. I believe Colorado has agreed to this with the people of the Western slope in that state and in the legislation authorizing and making appropriation of funds for construction of these transmountain projects. If the other states will subscribe to such a proposition I predict that there will never be a call for other water to supply any of the obligations of the Upper Basin States at Lee Ferry.

According to tree ring studies made on the entire Colorado River watershed by the University of Arizona the Green River Basin in Wyoming is the only part of the entire Colorado River watershed that has not experienced an exceptional drouth in the past 400 years. We do not intend to assume any obligation for delivery of water at Lee Ferry that we cannot meet under any and all conditions.

In conclusion, we sincerely urge this Commission to complete these negotiations at the earliest possible date in order that the compact may be placed before the legislatures of our respective states at the 1947 regular session.

Thank you, Judge Stone.

COM. STONE: Mr. Ed. Watson, Commissioner for Utah.

COM. WATSON: Mr. Chairman, ladies and gentlemen, it is with a sense of responsibility that I assume the burden to do my share in serving on this

Commission. I realize that the job will be long and that it will make decisions that will last for many years.

I am particularly impressed, however, with the caliber of men that I have been asked to work with, both the Commissioners and the advisers. I am pleased with the corps of experts that have been assembled to analyze the engineering data. I believe that we cannot go far afield with such men at the helm.

I am impressed with the fairness of expression of many of the individuals here this day at this hearing, and feel that there has been present the real true spirit of democracy that we think we have. I believe that in the long run we must arrive at a conclusion that will give each state a fair opportunity to develop itself. In other words, as one of our exponents of the Colorado River has said, ". . .to develop the River concurrently as far as each state is concerned." I believe that justice will be meted out by that method.

I realize also that the compact that will be entered into will supersede all state laws. It will be of the order of a treaty, which is the supreme law of the land.

I feel that much has been said here to enlighten the Commission and much has been expounded by experts to inform the water users. I feel that we have a big job before us and that we will all work constantly and assiduously to perform it.

COM. STONE: I appreciate the remarks of my brother Commissioners. This presentation constitutes the program except I feel that in all fairness to our Colorado people I should explain that at Rock Springs, Wyoming, I, as Colorado Commissioner, took the position that none of us know at this time how long it is going to take to consummate a compact. It is the desire and intention, I am sure, to expedite the work and to accomplish the job as soon as it can be done under all the circumstances. And in that effort, Colorado, I am sure, will not shirk its duty because we realize as well as anyone else that we shall all be in a better position to accomplish the development in our respective states when each state knows the size of the block of water which we have to deal with in the future.

However, I am firmly convinced that none of us should take the position that no development of any kind can proceed within the Colorado River Basin until we arrive at a compact. If we do that we are going to stalemate unnecessarily Upper Colorado River Basin development and we know that in the past the Lower Basin has gone forward much faster than the Upper Basin.

Our Colorado representatives have attempted to express here the idea, and as Colorado Commissioner I appreciate it, that we want to be fair and recognize the rights and the interests in all of the other states, but it goes even farther than that. We must recognize a solidarity among these Upper Basin States. We must recognize a common interest. We must fully appreciate that only insofar as we can act as a unit may we do the best job in providing for the effective utilization of that share of Colorado River water which has been apportioned by the Colorado River states to the Upper Colorado River Basin.

We in Colorado do have some projects under construction. We have other projects authorized for construction. None of those projects, in my judgment or by any possible stretch of the imagination, can exceed what will prove to be Colorado's equitable share of the water.

As an example, in this very area where we are now meeting today we have an authorized project known as the Paonia Project, storing 18,000 acre feet of water. When you consider that Colorado produces 11,700,000 acre feet of water and that we are now utilizing only approximately 1,500,000 acre feet of that water, that little Paonia Project is not going to hurt anyone and I can't see any reason why the position should be taken by anyone that that project should be put on the shelf until we arrive at a compact.

And I want to say to the other Commissioners and do it frankly in the spirit of cooperation that the threat or proposal for stopping of development is not going to bring about our agreeing on a compact. We are not going to agree on that basis. We are going to agree on the basis of what is fair and right and what constitutes in our judgment an equitable apportionment, and we are going to be willing to recognize the rights and interests of other states.

When we have completed in this state every project which is either authorized or under construction we shall be using then only about 1,700,000 acre feet of the 11,700,000 acre feet that this state produces. We know, too, that the amount of water produced by a state is not the sole criterion or factor in determining a state's equitable apportionment. That is only one factor. There are many factors.

It seems to me that we must proceed here on the basis of arriving at a compact at the earliest possible date consistent with all of the--you might say--difficulties that are ahead of us. We must attempt to surmount those difficulties. I think that nothing would please the Lower Basin--and I am not referring to Arizona--any more than for us to say to the Congress and to the Lower Basin that we do not propose to do anything in the Upper Basin until we arrive at a compact.

I should like also to get in the record again that the report of the Bureau of Reclamation did not place a stop order on the development within the Colorado River Basin. It said that any development during the time that a compact was being made must be clearly within what would prove to be a state's share of the water.

It is also true that very many projects which will require a large amount of Colorado River water are under investigation. Obviously with respect to large projects which would divert a large amount of water, we must await the time until we do have a compact because they might well exceed the state's share of the water.

I have always been impressed that if there is one thing which we should do in the Colorado River Basin that is to recognize the many small projects and get them built as soon as possible. I had the privilege as I have often had, and also the pleasure, of working with Senator O'Mahoney of Wyoming in urging appropriations for project development. Just this last spring we found that he had a project in his own state in the Colorado River Basin which was in the same category as one in Colorado. His project was the Eden Project; ours was the Mancos Project. Both of them were under construction, construction which was delayed during the war. Those appropriations are now available subject to the Executive Order of the President.

I certainly do not want to see the Eden Project put on the shelf with an appropriation available to complete it; neither do I want to see our project put on the shelf with an appropriation available to complete it. If those little projects are going to interfere with Wyoming's share or Colorado's share of the water, then we are a long ways from the right attitude if we are to consummate a compact. We cannot afford to pull the curtain down on Colorado River

development where such development is clearly within a state's share of water.

If we knew that we could arrive at a compact this fall or next summer it might be different. I hope we can and I pledge myself to work toward the earliest possible date of completion of such a compact. But we are looking into the crystal ball, certainly, if we say that we are going to accomplish something immediately. All we can do is to express the desire and work toward that end and do it conscientiously and that Colorado will do.

Mr. Chairman, I thought that ought to be said in fairness to the position which I took at Rock Springs, Wyoming, and in order that our people may be informed of that situation. Unless there is someone else from Colorado, and Mr. Smith has asked if there are others who have anything to say respecting this matter, we now turn the meeting back to you.

COM. BISHOP: Judge Stone, could I have just a word at this point? You may be right in all you say and still the fact remains that Wyoming produces 1,700,000 acre feet per year and has got nothing.

COM. STONE: Whenever you have a project, Mr. Bishop, we are going to be behind you to get it.

COM. BISHOP: I am not saying you won't.

COM. STONE: It is my guess that every project that you have mentioned can be built and still be within your share of the water. But we don't feel that it is approaching this problem on the right basis to pull down the curtain on every project, particularly if a project is clearly within a state's share of the water.

COM. BISHOP: You know quite well, Judge, our position isn't going to stop the projects.

COM. CARSON: Mr. Chairman, may I say just one other word? I thought I understood here this morning that there might have been some misapprehension that any compact made would override state water law or would affect state water law.

I think it is clear in all our minds that any compact made if one is made by this Commission would merely apportion to the states specific quantities of water, and that the administration of that water and the water rights and the priority of those rights would then be determined by the respective state laws. So that nothing this Commission can do will at all disturb the respective water laws of the respective states.

Then I want to say further that I agree with Judge Stone that if any projects are clearly within the prospective share of water to be apportioned to any one state, they should not be stopped and should proceed. And I say that for this further reason, that it seems to me that the chance for the development of the Colorado River Basin and appropriations and authorizations by Congress is now, and we don't know whether or not that condition will continue.

COM. WATSON: I should like to announce to those present here that the hearing to be held in Price tomorrow at two p.m. will be held as scheduled and those who desire hotel accommodations for that tomorrow night may have them at the Mission Auto Courts.

THE CHAIRMAN: Gentlemen, some of you may have the notion that the

work of this Commission is all engineering work. So far not much has been said about the legal end of this work. But as you will observe, we have two lawyers on the Commission and four engineers including the Federal Representative, and so far as conversation is concerned, I think it just takes about that much to balance it. (Laughter.)

Don't be uneasy. We will have our lawyers at work we hope soon to use the proper words to make this compact understandable or otherwise.

We have a gentleman with us today who attends all these water meetings; in fact, he has been attending water meetings since some of us were boys. He is a retired, successful businessman. I will not make the mistake of saying that he is from Salt Lake City and subject myself to a verbal chastisement like I did in the case of Judge Stone, but will say that he is the foremost conservationist in the West and has been preaching the value of water for Western development regardless of whether it is in the State of Utah or in any state.

I now call on the Honorable William Wallace to give us a few words. Mr. Wallace has all these years of experience but he still does not live in the past but in the present and in the future. Mr. Wallace. (Applause.)

MR. WILLIAM R. WALLACE, SALT LAKE CITY, UTAH: I like that phrase, "in the future."

Mr. Chairman, ladies and gentlemen, I would like to make just one or two remarks and one of them is that all of this water is in the United States of America!

In my opinion we can agree upon a division of this water now for submission to the next session of the legislature upon a basis in which no state will be seriously hurt and certainly upon the basis that all of it will be used in the United States of America.

Thank you very much, Chairman Bashore. (Applause.)

THE CHAIRMAN: Do any of the Commissioners have any further business which should be transacted at this time? The Chair feels that before we finally disperse at Farmington the Commission should go into executive session on some matters and you will please bear that in mind.

Mr. Carson, do you have any further business for the Commission's consideration?

COM. CARSON: No, sir.

THE CHAIRMAN: Mr. McClure?

COM. MCCLURE: No, sir.

THE CHAIRMAN: Mr. Bishop?

COM. BISHOP: Nothing.

THE CHAIRMAN: Mr. Watson?

COM. WATSON: No.

THE CHAIRMAN: Judge Stone?

COM. STONE: Nothing, unless--I think we ought to inquire of our

moderator whether he has anything further.

MR. SMITH: No.

COM. STONE: Frank Merriell?

MR. MERRIELL: No.

THE CHAIRMAN: The Chair neglected to thank you, Judge Stone, and you, Mr. Smith, for your masterly conduct of this meeting and to thank all of you who have attended this meeting and participated in the discussion and those of you who have only come here to listen.

MR. SMITH: Might we introduce the three gentlemen who just came in so everyone will know them?

THE CHAIRMAN: Yes, indeed.

MR. SMITH: If I may have the privilege, Mr. R. J. Tipton, Consulting Engineer of the Colorado Water Conservation Board and practicing engineer.

I have only known this boy since he was born--Mr. Carl M. Bennett, City Engineer of Grand Junction.

And Mr. Herbert Fritz, City Manager of the City of Grand Junction. Thank you.

COM. STONE: I think we ought to hear from Mr. Fritz before we get through.

THE CHAIRMAN: Mr. Fritz, would you like to make a few remarks for the benefit of the Commission?

MR. HERBERT W. FRITZ, GRAND JUNCTION, COLORADO: It was somewhat less than a year ago, Commissioner and friends, my friend Silmon Smith made a facetious remark about my coming from the Middle West where the per capita consumption of water is more than it is here, and in the intervening period I have learned the wisdom if not the facetiousness of that remark. I won't say that ninety percent of our thinking is water here in Grand Junction, but a substantial percentage of it is.

We are trying to solve our local problem that conforms as completely as possible, and I would like to say completely, with the program of the Colorado Water Conversation Board, in a manner that will best serve the interests of the Grand Valley, the City of Grand Junction foremost of course, and at the same time will fit into the overall program of the Colorado River.

I have nothing to contribute to this meeting other than to say the City of Grand Junction is making every effort to fit the pattern that is being set up now and I can assure you that we will continue to work in that direction. I can say that unwittingly we selected an engineer who does take seriously those principles you people are setting up, first for the Colorado Conservation Plan, and second, for the whole Colorado River. We are happy we are able with that ground work to go on from there and plan our own work and it will tie in. We will take fullest advantage of the water used and leave enough for the fellow downstream too. We think it will work out.

THE CHAIRMAN: Off the record. (Remarks off the record.)

COM. McCLURE: Mr. Chairman, I move the Commission thank Mr. Silmon Smith and all these gentlemen who have appeared before us and the other interested parties attending this hearing.

COM. CARSON: Second the motion.

THE CHAIRMAN: Any discussion of the motion?

(The question is called for. Thereupon a vote was taken and the motion of Com. McClure carried unanimously.)

COM. BISHOP: Mr. Chairman, I move that we adjourn until two o'clock tomorrow at Price, Utah.

COM. McCLURE: Second the motion.

THE CHAIRMAN: Motion has been made and seconded--you heard the motion. Any discussion?

(Thereupon a vote was taken and the motion of Com. Bishop carried unanimously.)

(3:38 p.m., Wednesday, October 30, 1946, meeting adjourned until 2:00 p.m., Thursday, October 31, 1946, at Price, Utah.)

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Official Record of Meeting No. 3

Session Held

October, 31, 1946

at

City Hall

Price

Utah

APPEARANCES
UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Membership as listed at Rock
Springs, Wyoming, Session
(Page 1)

Chairman, Acting Secretary,
and all Commissioners present.

COLORADO:

Jean S. Breitenstein

Attorney, Colorado Water Conservation Board,
718 Symes Building, Denver, Colorado.

NEW MEXICO:

Fred E. Wilson

Special Assistant Attorney General and Attorney
for New Mexico Interstate Stream Commission,
Albuquerque, New Mexico.

UTAH:

William R. Wallace

President, Utah Water Users Ass'n.,
Salt Lake City, Utah.

John A. Widtsoe

Utah Water Users Ass'n.,
Salt Lake City, Utah.

Thomas W. Jensen

Utah Water Users Ass'n.,
Mt. Pleasant, Utah.

C. S. Jarvis

C.E. with State Engineer,
Salt Lake City, Utah.

Blair Richardson

Metropolitan Water Board of Salt Lake City,
Salt Lake City, Utah.

Gerald Irvine

Utah Power and Light Company,
Salt Lake City, Utah.

Raymond Hammond

Tooele County Water Users Ass'n.,
Grantsville, Utah.

J. Bracken Lee

Mayor, Price, Utah.

Wallace G. Grange

Price, Utah.

Robert Sundwall

Tribune-Telegram Publishing Co., Price, Utah.

William Campbell

Carbon County Commissioner, Price, Utah.

George M. Miller

Price, Utah.

H. F. Putnam

Price Div. Utah Coal Prod. Corp.,
Price, Utah.

Irvin Gerber

Price River Cons. District,
Wellington, Utah.

Rex Mathis

Price River Cons. District, Price, Utah.

E. E. Peirce

Price River Cons. District, R.F.D. No. 1,
Price, Utah.

Therold N. Jensen

Price River Cons. District--Carbon Water Cons.
District, Price, Utah.

Wm. P. Maack

Independent Coal & Coke Co.,
Kenilworth, Utah.

C. E. Beveridge

Utah Railway Company, Helper, Utah.

J. A. Theobald

Secretary, Carbon County Associated Industries,
Price, Utah.

Dr. F. R. King

Price, Utah.

Byron Howard

State Senator, Huntington, Utah.

Russell Allred

Cleveland Canal Company, Huntington, Utah.

L. E. Thorderson

Cleveland Canal Company, Huntington, Utah.

Bert J. Sillman

Grand County Water Users, Green River, Utah.

C. N. Wakefield

Emery County Commissioner, Huntington, Utah.

Frank Robbins	Emery County Rancher, Huntington, Utah.
E. S. Larsen	Board Member, Cotton Wood Creek Irrigation Co., Emery County, Utah.
O. W. Sitterud	Secretary, Cotton Wood Creek Irrigation Co., Orangeville, Utah.
Joseph J. Jensen	Muddy Creek, Utah.
Ervin Wimber	Emery County Commissioner, Castle Dale, Utah.
Edward G. Geary	Emery County Water Users Ass'n., Huntington, Utah.
Peter McElprang	Huntington, Utah.
Mrs. Mayme Jameson	Deseret Lake, Utah.
Frank J. Hatt	Green River, Utah.
Wilford J. Humphrey	Orangeville, Utah.
J. W. Gillman	Provo River Water Users Ass'n., Orem, Utah.
Mark Anderson	Mayor, Provo, Utah.
Elmer A. Jacob	Provo Utilities, Provo, Utah.
Vasco M. Tanner	Provo City Utilities, Provo, Utah.
Thomas H. Latimer, Jr.,	City Engineer, Provo, Utah.
J. Earl Lewis	Provo City Commissioner, Provo, Utah.
B. H. Stringham	Mayor, Vernal, Utah.
Robert F. Livsey	Deseret News, Vernal, Utah.
H. L. Allred	Roosevelt, Utah.
Francis Felth	Vernal Lions Club, Vernal, Utah.
Alma Preece	County Commissioner, Uintah County, Utah.
Leon P. Christensen	Uintah Basin Water Users Ass'n., Vernal, Utah.
Leo Calder	State Representative, Uintah County, Vernal, Utah.
Jos. C. Price	Ashley Upper Irrigation Co., Vernal, Utah.
Ronald Preece	Rock Point Canal Company, Uintah County, Utah.
John Madsen	State Representative, Duchesne, Utah.
Mitchell Melich	State Senator, Moab, Utah.
J. F. Harrington	Moab, Utah.
W. C. Cole	Delta, Utah.
Dudley Craft	Delta, Utah.
Archie O. Gardner	Millard County Water Users Ass'n., Delta, Utah.
Harold R. Morris	Delta, Utah.
W. C. Andrews	Chairman, County Commission, Juab County, Utah.
Reeve G. Richardson	Nephi Irrigation Company, Nephi, Utah.
Tom McCoy	Municipal League, Salt Lake City, Utah.

WYOMING:

Emil C. Gradert

Compact Commissioner, Fort Bridger, Wyoming.

BUREAU OF RECLAMATION:

J. G. Will

Assistant Chief Counsel,
Washington, D. C.

J. R. Riter

Chief, Hydrology Division,
Denver, Colorado.

N. B. Bennett, Jr.

Branch of Project Planning,
Washington, D. C.

E. O. Larson

Regional Director, Region 4,
Salt Lake City, Utah.

A. A. Batson	Acting Regional Director, Region 7, Denver, Colorado.
A. N. Thompson	Assistant Regional Director, Region 5, Amarillo, Texas.
J. Stuart McMaster	Counsel, Region 4, Salt Lake City, Utah.
L. E. Mathews	Salt Lake City, Utah.

UNITED STATES GEOLOGICAL SURVEY:

M. T. Wilson	District Engineer, Salt Lake City, Utah.
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SESSION AT PRICE, UTAH
THURSDAY, OCTOBER 31, 1946

The meeting was called to order by Chairman Bashore at 2:00 p.m., Thursday, October 31, 1946.

THE CHAIRMAN: The meeting will now come to order as it is two o'clock and all of the Commissioners are present. Our Acting Secretary, Mr. Lon Watson, is just appearing on the scene.

At the last regular meeting of the Upper Colorado River Basin Compact Commission, Meeting No. 2, at Santa Fe, New Mexico, the Commissioners decided that in connection with the next regular meeting, Meeting No. 3, a series of field hearings should be held, one in each state of the Upper Division. That means four meetings. These meetings were to be held in Rock Springs, Wyoming; Grand Junction, Colorado; Price, Utah; and Farmington, New Mexico. The two meetings at Rock Springs and Grand Junction have been held and this is the third of the series.

The purpose of these meetings is to acquaint the people within the Upper Basin with the work of the Upper Colorado River Basin Compact Commission and to give you an opportunity to express your ideas and offer suggestions which may be helpful to the Commissioners in their deliberations in connection with this proposed compact. Every one of you should feel free to say what you have to say. It is not expected that you will deliver a finished oration but your suggestions and remarks are welcomed.

The Chair believes that at this time he should introduce the members of the Commission and I will start with the gentleman on my left, Mr. Charles Carson, Commissioner for Arizona. (Applause.)

On my right, Mr. Ed. Watson, Commissioner for Utah. (Applause.)

Next to Mr. Watson is Mr. Thomas M. McClure, Commissioner for New Mexico. (Applause.)

The next is Judge Clifford H. Stone, Commissioner for Colorado. (Applause.)

The next is L. C. Bishop, Commissioner for Wyoming. (Applause.)

Then Mr. Lon Watson, our Acting Secretary today. (Applause.) Mr. Watson is acting in the absence of Attorney General Grover Giles.

And the efficient young lady who reports our meetings is Miss Price of Utah. (Applause.)

Following the procedure which we have used in the two previous hearings, the Chair is now pleased to turn over the meeting to the Commissioner for Utah, Mr. Watson. Mr. Watson will conduct the meeting from this point on and will call on anyone and run the meeting according to his own ideas. The only thing that the Chair would have to offer is that we hope that the remarks will be directed toward the work of the Commission, that is, let's keep within the Basin if we can because that is a subject that is plenty large. Mr. Watson.

COM. WATSON: Ladies and gentlemen, a few remarks introductory to your various reports may be in place in order for you to have an understanding of what we are trying to do and why we are trying to do it.

In midsummer of 1946 the Governor of Wyoming called the Governors of the Upper Colorado River Basin States together and laid the foundation at Cheyenne for the organization of a compact commission so that ultimately a compact could be negotiated for the division of the water of the Colorado River that was apportioned to the Upper Basin by the Colorado River Compact. This was a preliminary meeting and was followed about ten days later by one held in Salt Lake City at which the Upper Basin States were all represented. So it was that the Upper Colorado River Basin Compact Commission was organized. A resolution was also passed for the appointment of a subcommittee of engineers to investigate basic data and make certain recommendations to the Commission.

The next meeting of the Commission was held about the middle of September in Santa Fe, New Mexico, where a preliminary report by the Engineer Subcommittee was made. This subcommittee is composed of competent men. Mr. J. R. Riter of the Bureau of Reclamation is Chairman and each state is ably represented. The assignment of the subcommittee comprises a study of streamflow, reservoir operation, evaporation and channel losses, and other engineering data that may be necessary to determine what the Colorado River does and what it is capable of doing.

As Chairman Bashore has said, the third meeting of the Commission consists of a series of public hearings now being held in the states of the Upper Basin.

I believe that since there are some here who may not understand the general principles underlying the Colorado River Compact and who may have some mistaken ideas about it, a short discussion of historical events may not be out of place. I shall attempt to do that very briefly for your benefit and for my own as well.

You all know that at the beginning of this present century--I think it was 1906--there were floods on the Lower Colorado River and that parts of the Imperial Valley were inundated with great property loss. The people of California cried out for help, but it took a long time for constructive forces to get organized. Finally the United States Government said to the states of the Colorado River Basin, "You get together, compose your differences, agree upon a plan to divide the water, and we shall try to get some action." The people of California were entitled to flood control. They were also anxious to have Boulder Dam but before the Boulder Dam could be built an agreement or compact had to be entered into by the States of the Colorado River Basin. After much discussion and long delays the Colorado River Compact was finally signed by six states of the Colorado River Basin, Arizona, the seventh state, preferring not to sign the document.

We in the Upper Basin have seen the Colorado River at its flood and also when it runs dry. We know something of its habits. We knew that we were not prepared to utilize the River's water and that through our failure to use it, we might lose our rights and forfeit them to the Lower Basin States who could put the water to use before we could do so. It was, therefore, to our advantage to have an agreement to protect us against our nonuse. On the other hand the Lower Basin States wanted flood control, storage for irrigation development and hydroelectric power.

The men who were in charge of the work at that time--President Hoover, then Secretary of Commerce, was the Chairman representing the United States Government--were sincere men and they did the best job they were capable of doing. They didn't have as complete records of streamflow as we have at the present time. They had records of rather abundant years to refer to, but they didn't know that the lean years that commenced in 1931 were just ahead. They assumed that the River produced about 16,000,000 acre feet annually that could

be safely apportioned and about 5,000,000 acre feet surplus subject to division at some later date. So, on the basis of the information they had they negotiated a compact. It is doubtful if at that time the amount of water to be divided between the Basins was given very serious consideration inasmuch as the River was considered amply large.

The Upper Basin States gained the advantage of being protected against their nonuse of the water, and in having navigation and power made subservient to irrigation. The Compact was advantageous to the States of the Lower Basin because it gave them adequate flood control, converted their primary flow rights to guaranteed storage rights and provided hydroelectric power, the revenue from which would pay for the dam.

Previous to the writing of the compact some of the states had spent large sums of money in lawsuits with surrounding states over interstate water rights with results that were not satisfactory to any of the parties. You all know if you win a lawsuit you are the loser. It was therefore decided for the benefit of the people the best thing that could be done was to settle interstate difficulties by compact and not in the courts.

Boulder Dam was completed in about 1935. In 1931 the lean years commenced and there were ten of them that followed consecutively. We now have evidence that causes us to believe that the River is not as large as these gentlemen thought it was. It's a case of hindsight versus foresight. True, we have better instruments to work with and we have the advantage of accumulated knowledge. For instance, this last water year, ending October 1st, the Colorado River flowed at Lee Ferry somewhere around 8,000,000 acre feet. Assuming about 2,000,000 acre feet consumptive use, the virgin flow of the River would be about 10,000,000 acre feet at the Ferry.

Before entering into the Compact the States first tried to divide the water among themselves as individual states; however, they soon found that was impossible. A gentleman from Colorado by the name of Delph Carpenter conceived the idea of establishing a point midway in the course of the River and dividing the water between the Lower group and the Upper group. This point was chosen near Lee's Ferry. Lee's Ferry is the old Ferry we know of, a geographical location. Lee Ferry is a point just below the mouth of the Paria, below Lee's Ferry, at which the waters are divided. It is merely a point established by an agreement but is known as Lee Ferry in contradistinction to Lee's Ferry.

In drafting the original Compact the drafters knew that the Colorado River didn't terminate in the United States, that it flowed into Mexico and traversed about fifty miles of that state before entering the Bay of California. Mexico had rights to the water of the River and she also had large tracts of good land. Down there the River flows along a ridge and the good land slopes off to the north into the Salton Sea, 240 feet below sea level. It was possible for Mexico to utilize the River's water on her own lands--either the Mexicans themselves or Americans from the States. The original Compact provided that in case a treaty should be made with Mexico, the Upper and Lower Basin States should divide equally the responsibility of providing Mexico with the amount of water that might be agreed upon.

During the last few years efforts were made to negotiate a treaty with Mexico. As I remember, Mexico asked as her portion 3,500,000 or 3,600,000 acre feet of water. Finally the State Department got the figure down to 1,500,000 acre feet from any and all sources. That means that the return flow is included in the 1,500,000 acre feet. Hydrographers who have studied the Colorado River assert that in a developed river there will be a

substantial return flow, 900,000 to 1,000,000 acre feet. It is estimated that a total of 600,000 acre feet may have to be provided equally by the Upper Basin and the Lower Basin.

And let me say to you here, gentlemen, that if the Colorado River Basin States had not negotiated the Mexican Treaty that sovereign powers across the boundary could have put the water to use and worlds without end we never would have got it back--it would have been Utah's, Colorado's, New Mexico's, Wyoming's and Arizona's water. I stood on the diversion dam of the All-American Canal a year or so ago and saw the Canal running 15,000 second feet of water, its total capacity. But in spite of this diversion there was a great river running over the spillway down the river and into the sea. And whose water was it? It was largely Upper Basin water. If that water could be put to beneficial use in Mexico, we would never have a chance to develop the Upper Basin. So, in the signing of the Mexican Treaty the old adage probably runs true, "better a half loaf than no bread". The amount of water given them amounted to placing a ceiling on their use and saved for the Upper Basin its future development.

Ladies and gentlemen, we must face the facts. This Commission has been authorized by the states of the Upper Basin to negotiate a compact for the division of the water apportioned by the Colorado River Compact to the states of the Upper Basin.

Now the Upper Basin agrees not to deplete the River at Lee Ferry more than 75,000,000 acre feet in any consecutive ten-year period. In other words the Upper Basin guaranteed an average yearly flow of 7,500,000 acre feet at Lee Ferry. It was considered that inasmuch as rights to the primary flow of the River had been established in the Lower River that these primary rights would have to be changed to storage rights and guaranteed. The Compact apportioned 7,500,000 acre feet to the Upper Basin for exclusive beneficial consumptive use and 7,500,000 to the Lower Basin for the same purpose and under like conditions.

I believe when the River is regulated that we will have a substantial portion and perhaps, over a long period of time, our share--our just share--of the water. However, at the present time we must bear in mind that we are dealing with a river that is not as large as it was once thought to be.

In dividing these waters among the States of the Upper Basin there are two schools of thought: One is to divide the water on a minimum basis and the other is on a total basis. Shall we consider the River as it now is and take an absolute minimum at Lee Ferry that we are sure we can divide without any question and leave the balance for future division? Or, shall we divide it all at the present time? Those are burning questions and there is difference of opinion on them.

Utah, according to figures that have been recently worked out by one of our competent engineers, produces about, we think, 18 percent of the River. And we also have in addition to what we produce, the storage reservoirs in the main stem of the River to hold that water. If you should go into a restaurant and ask for a cup of coffee and they tried to deliver it to you without a cup or container the chances are you wouldn't get any coffee. So these containers, these great reservoir sites down at Dark Canyon, Rattlesnake, Split Mountain, and even Glen Canyon, although the damsite is over in Arizona, just over the Line--these sites are all great factors to be considered in saving this water so we can deliver our share to the Lower Basin States and still retain enough for ourselves.

I wish to mention one or two projects that we would like to have in

Utah and then I shall turn the meeting over to you gentlemen and you will be entitled to express yourselves freely. There is a project that we have here in this state that is a very desirable one. At the present time there is a reservoir northerly from here known as the Strawberry Reservoir. Its elevation is 7,600 feet. It is as high as Yellowstone Lake and that is considered one of the highest lakes in the country. That reservoir produces water for some excellent farms, and it produces power that pays the cost of the operation of the water system. In fact, I am told that a year or two ago this project, known as the Strawberry Project, made a profit of \$50,000, which paid all of the O. and M. and put money in reserve. Now Utah would like to build a feeder canal out along the south flank of the Uinta Mountains in order to pick up the surplus water and store it in that reservoir which could be enlarged by building a higher dam and finally utilizing the water on more land. That is an important and desirable project where we could use our share of the Colorado River water without hurting anybody. Then there is the Gooseberry Project which deals with transmountain diversion of water in small amounts into Sanpete County where it could irrigate some very rich land. Some of you will explain this as we go farther.

In the Lower Basin there is the Virgin River area where the land is very rich and the elevation is only 2,500 feet. Semi-tropical crops can be grown there. The Virgin River yields surplus water to the Lower Basin and we are informed by the Commissioner from Arizona they will cooperate with us in the development of the Virgin River Basin by means of the Hurricane Reservoir site and the site on the Santa Clara.

Then we have over in the Uinta country the sites of Stanacker Draw and Tyzack, which are desirable. Most of these could be constructed in a reasonably short time, as a great deal of the engineering data has already been collected.

I think Utah's viewpoint will develop in our discussion and I now wish to call on you people here. We have the Mayor of this fine little city with us and we would like to hear a few words from Mayor Bracken Lee. (Applause.)

MAYOR J. BRACKEN LEE, PRICE, UTAH: Mr. Chairman and visitors, I don't feel as though I ought to say very much at this time, Ed. I came here, I think like a great number of these gentlemen, to learn, and I am sure I am going to learn something.

But inasmuch as you have asked me to say a few words I would like to say that the City of Price is flattered to have such a fine, distinguished group of visitors, and we certainly welcome every one of you. I would like to compliment the Commission on deciding to hold public hearings because certainly no harm can come from letting the public in on what we are doing and a lot of good, I am sure, will come from it.

I notice from looking around this group that we have representatives here from all over this end of the State. I don't think there is a county that is not represented. I see even Mark Anderson, who is the Mayor of Provo, over here. I can't understand what he is here for unless he wants some of Carbon County's water. (Laughter.)

I am sure the Commission is trying to do the right thing and, of course, Ed., if they fail, I hope you put some Republicans in to help straighten it out.

COM. WATSON: We have some very good Republicans that are working with us and they are doing excellent work.

MAYOR LEE: I couldn't resist that little dig at Ed., forgive me for it. Anyway, I think you ought to get on with your meeting and perhaps by the time I learn a little bit more about this water business I can say more about it. The experience I have had here in Price is that the more I know the less I know. It is certainly complicated, and even a little irrigation ditch here in Price involves a lot of complications.

So I in a way feel sorry for you gentlemen who are endeavoring to try to straighten out the Colorado River with all its complications.

I believe you had better proceed with your meeting and we will see if we can't bring something up that will really be of benefit to everyone. (Applause.)

COM. WATSON: We would like to hear from Leon Christensen, an engineer who lives over in Ashley Valley and who is well acquainted with the problems of that Valley.

MR. LEON P. CHRISTENSEN, VERNAL, UTAH: Mr. Chairman, ladies and gentlemen, I like Mayor Lee came here to listen and not to talk.

Of course we are over in Uintah County. We live right on the banks of the Green River, which of course is the largest tributary of the Colorado River, and are naturally extremely interested in any development there is in the Colorado River Basin and especially in our section.

We have a number of projects in that district. We have just outside of Vernal the Echo Park Project which, of course, would have to be a regulatory reservoir. It holds under its present plans, 5,500,000 acre feet, and would be in our estimation one of the first projects that should be constructed on the Colorado River for the reason that it is near the head and has the water supply available.

The Bureau of Reclamation we feel has done an exceptionally good job of listing our projects and working them up. As was stated by Mr. Watson, most of the projects in that vicinity have been investigated and a great deal of the engineering work has been completed on the Echo Park, the Vernal Project, the Jensen Project, and several of the other small projects.

We feel that about all we could say at this time is that we approve the projects as they have been listed by the Bureau of Reclamation and are willing to abide by their report and hope that work can be commenced on some of the projects in the near future. (Applause.)

COM. WATSON: From that same area we have Mayor Briant Stringham of Vernal. We would like to hear a few words from him.

MAYOR B. H. STRINGHAM, VERNAL, UTAH: Mr. Watson, distinguished people, I will only take a minute of your time. All I can do is verify what Mr. Christensen said. I might inject one more thought into that and I hope I don't offend our fine neighbors who live right next door to us. But we have in mind one other thing--you told us to unload anything we might have?

COM. WATSON: Get it off your chest.

MAYOR STRINGHAM: That is the fact that we over in the Basin--excuse me, Bracken--live in a potential wonderland. We have potential resources surrounding us on all sides such as gilsonite, asphaltum, and we are keenly interested in this from another angle. We believe we should take care of the Basin first with these waters and then if there is surplus water, let these other

valleys have it. And in transferring this water across to the other basin, this diversion canal, there will be power sites which we need badly to develop these potential resources we have just over the ridge from our good friends here at Price.

Now we think, you people of the Commission, that should be a consideration in dividing the water and that is what you are here for, is to try to get on a basis for dividing the water. The fact that Utah has all these resources and that they can be developed not only for the State's good but the National good, that should be one of the considerations, industrial development, when you are dividing this water up.

And so coming back selfishly to our little basin over there we certainly stand first for the Echo Park Dam so that we may get busy there and develop those resources that lie within that area. (Applause.)

COM. WATSON: We have Mr. Horace Allred who lives out in that area, Uinta Basin. He is a director of the Utah Water Users, and has been very active in our water development. Mr. Allred, will you say a few words?

MR. H. L. ALLRED, ROOSEVELT, UTAH: Mr. Chairman, gentlemen, after Briant and Leon Christensen got through--I have been telling them all day what to say--I don't think I have very much left to say.

I think Mr. Stringham touched on a point that will interest us all in the State whether we live in the Colorado River Basin or any one of these four Upper Basin States. I believe you men are all interested in making this Colorado River water do the best job possible, and the type of lands we have, cost of developing, water charges for these lands, will exclude a lot of our lands if we think only of irrigation, which a lot of us have been thinking about in the past.

In line with Mr. Stringham's thought, I think in arriving at an allotment of water out of the Colorado River for Utah that that should be given some consideration, a lot of consideration, the value of the water that we might use for the development not only of our agriculture but of our great industries which we hope to be able to develop in Utah. These things will take some transmountain diversions. These people here that live in the Colorado River Basin are naturally jealous of the water that we in the Basin say is ours, and we want to develop all the good irrigation projects we have. I think there is water here for all the projects we will have and there will be a lot to go over the mountain to help build these industrial units that will be over there. I believe that you men when you get this allocation problem far enough along will agree with me that they should be worthy of a lot of consideration in allocating water to the State of Utah. Thanks, Ed. (Applause.)

COM. WATSON: We have with us Mr. John P. Madsen from Duchesne out in the Uinta Basin country. Mr. Madsen is a representative in the Legislature and also a member of the Colorado River Committee in the Legislature formed to study the potentialities of the River. Mr. Madsen, will you say something?

MR. JOHN P. MADSEN, DUCHESNE, UTAH: Mr. Chairman, gentlemen, I come from a country where we have water to spare and we are sparing it down the Duchesne River every year. We are very anxious out there to get the Duchesne and its tributaries so set up that we can appropriate and put that water onto our lands. It is going to require a good many reservoirs which when built can water the entire Basin and then have plenty for Central Utah, that is, when you put the Green back of it, to push it over into the Strawberry Reservoir.

There is one beautiful thought that comes from my section of the country: It will act as a natural reservoir for the return flow into the Colorado River. Every bit of that country drains right back into your Colorado River system and all the water you put there that doesn't evaporate will come back some day into your Colorado River. We are very anxious and very concerned about the return flow because we feel that should be taken seriously into consideration when division of this great and mighty Colorado is taken into consideration.

We have a lot of valuable land out there, some of the finest in the State of Utah. So say your Government agencies and also your state agencies that have gone over that land--it should be under cultivation. There are 15,000 acres in one tract. Four hundred or five hundred returned veterans could go onto that land and make themselves a good living because it is productive soil.

The State Engineer sometime ago cancelled our water filings to that land. We feel it was unfair to us and we are going to fight to get those filings reinstated because we feel we are entitled to those filings.

I made a statement on the floor of the House in the last session that the Colorado River was already overappropriated and if we weren't careful, some day California would come up here and regulate our headgates. They smiled at me but I believe they say now I am right because there is not water enough in the Colorado River to go around if they want to take that into consideration.

So the Upper Basin States must get busy and see that we have our portion of that water and furthermore, as Mr. Krug, Secretary of the Interior, said, those who make beneficial use of that water are the ones who are going to hold it. Our State law tells us the same thing. So I think we here in Utah have a problem to solve and that is to get busy right now and see to it just as fast as we possibly can we make beneficial use of this water.

I don't feel we should go out and take advantage of the other states. I think we should work harmoniously together with every state interested in the Colorado River, each one to receive his proportion. To do that I feel it would be wise and wisdom for each state now to set up a certain project they want to put over, one certain project, and then all go to work. If we try to outdo each other, outrun each other, outflank each other, there is going to be a lot of confusion, a lot of disagreement, a lot of contention. Therefore, let's work harmoniously together. For after all, the mighty Colorado belongs to us, that is, what is left of it, and let's make use of it. I thank you. (Applause.)

COM. WATSON: Mr. Leo Calder is here, is he not, State Representative from Uintah County? Mr. Calder, will you come up and say a few words?

MR. LEO CALDER, VERNAL, UTAH: Mr. Chairman, ladies and gentlemen, I guess you will begin to think now that everyone that is interested in the Colorado River comes from the Uinta Basin. Well, maybe that is not so, but so far all of us have been from the Uinta Basin.

We are vitally interested in this Uinta Basin water and in the water that we can spare for somebody else because all this water runs through our Basin. We would like to see particularly the Echo Park Dam put in, which is on the Green River east of Vernal. It will mean in power alone much to Utah and the development of our industrial resources, our natural resources that are lying right there in the hills. For instance, the phosphate that is there north of Vernal would be developed today if the proper power was available. There are companies waiting right now to establish plants there that would absorb a good

share of the power that would be available from that source. No doubt it would bring into Utah so much more development along an industrial line that the taxes and everything else would increase in proportion to the population, which undoubtedly could increase a whole lot.

Mr. Stringham mentioned some of the great resources that are around there close and he left out oil. Some day we are going to develop a lot of oil and that too will be a great source of industry. Already our town, through the Colorado development that is just across the line and is coming closer to Utah hourly--our town has more than doubled in population in the last year or two.

It only shows that if you have the stuff you can get the people and you can get the money and we can live together and utilize those natural things that we have right here in our state and utilize the water, or our share of the water, that is here flowing down to California. It is our purpose to push this thing and get it to going as soon as possible. Thank you. (Applause.)

COM. WATSON: Mr. Alma Preece, County Commissioner from Uintah County, is he present?

MR. ALMA PREECE, UINTAH COUNTY, UTAH: Mr. Chairman, ladies and gentlemen, as County Commissioner my thought along this line has been a little different. Without giving you the background like the other men have, it has been along the line of organization. Here a few years ago it was the responsibility of the County Commissioners to perfect an organization and we have worked in Duchesne and the neighboring counties along this line, and Carbon, in placing such men as Mr. Allred and some of the other men here, working along in this organization. We think that we have selected some very good help and we as Commissioners are working together harmoniously without any conflict in any way in selecting the help for this work.

Speaking of transmountain diversion, I don't think anyone could be opposed to it if their needs are supplied. We have a lot of water, as has been mentioned, over here in the Uinta Mountains Basin, and if we could be supplied there and better, which we could be, by an exchange of water, it would be a big benefit to us. We have a lot of water go by us there in the flood--not this last year but ordinarily--and then we dry out the rest of the year. We can't grow proper row crops and we could add to our wealth in that section.

I think we are all on the right track. I think there is a great deal of development being done in the State organization and I compliment these men that are working hard along these lines, and I think success will crown their efforts in the future. Thank you. (Applause.)

COM. WATSON: Is Mr. Joe Price of the Vernal Drug present? (No response.) We have with us from Huntington a former Senator who is a great student of water and a booster for this country. We would like to hear from him, Mr. Byron Howard. (Applause.)

MR. BYRON HOWARD, HUNTINGTON, UTAH: Mr. Chairman, ladies and gentlemen, I am certainly glad to hear from that Uinta Basin that they have got lots of water and got lots to spare because, brother, we are plenty short in our country and all the water that is in our country we have potential places to put it. Along the Wasatch Range here, running south along this Valley for sixty, seventy-five miles here, every drop of water there that originates in those mountains we have places to put if we just had a few more storage facilities to take care of it.

We are absolutely against, gentlemen, any transmountain diversion from this part of the country and south of here, transmountain diversion anywhere, because we have places to put all that water and we need it all. Not only that, all the water that is used, as Mr. Madsen so adequately stated--all the water that is used in the Basin is a potential chance of a return flow to be taken into consideration when we produce our water at Lee Ferry for the Lower Basin. That is one of the greatest reasons why in our part of this section of the country we are absolutely against transmountain diversion of any water.

Now I feel and all of our people feel that this Bureau of Reclamation in their Comprehensive Report have made a very good job of it. They have made an impartial report, I think, of the matters as far as we are concerned. The only thing we object to in their report is that on every one of our streams over there they claim there is a chance for tunnels to be built and take that water over to the Great Basin, and we certainly object to that because we know we can use and handle and need every drop of water that is over there.

When this matter is taken into consideration of the allocation to the different states, the four Upper Basin States, we wish you to take that into consideration, gentlemen, that this water along the Wasatch Plateau from here south is all adequately needed for our own use and will be a benefit to you if it is left on this side because there will be a return flow for Mexico and California and the Lower Basin.

Now around the Green River and on the lower part of the Green River, I feel that there is plenty of good land down there, gentlemen; there is just as good land down there as any one part of the state. You people talk about the good land in the Great Basin; there is a lot of good land over there but there is a lot of good land over here, too. It might not be in as nice a valley and there might not be as many bankers over there and politicians, but there is some good land there and we feel where water is the civilization will be.

You people are pretty well built up there; you have about as much as you can have without more water. Give us a chance over here and lay off the transmountain diversion until we get ours built up over here a little. Thank you. (Applause.)

COM. WATSON: Is Mr. E. E. Peirce, President of the Price River Water Conservation District, Price, Utah, present?

MR. E. E. PEIRCE, PRICE, UTAH: Mr. Chairman, gentlemen, this is a surprise to me. I didn't expect they would be so far down the line as to call on me to talk.

We are maybe more fortunate than some of you people. Our project is complete, we have our dam built, but we are willing to get behind the wheel and give the rest of you a boost. If we can help somebody else get their project over we will be glad to do it.

But I believe Mr. Howard touched on a very vital point and it concerns us here as well as it does the people in Emery County. We have a place for all the water we can find. This last year we got by by a pretty close squeak. Of course it was the first year we used our new dam and we didn't have the advantage of much of a runoff last winter. But we second Mr. Howard's speech, and I thank you. (Applause.)

COM. WATSON: We will hear from one other individual and then we will take a few moments' recess to give our reporter a little rest. Senator Mitchell Melich from Moab is here and we would like to hear a few words from

him. He has made a study of the Colorado River.

MR. MITCHELL MELICH, MOAB, UTAH: Chairman and Members of the Commission, the thing that is so vital to me in connection with the development of this River is this:

When I settled on the River some twelve years ago down at Moab I had heard about all of these projects. I grew up in an area where we weren't so concerned about irrigation because I was born in a mining town and all we were interested in there was mining copper, lead, and zinc. And I was told that these projects were to be built in the near future. But I have been down there some twelve years now and to my knowledge we have built hardly any in the State except some of the large projects which I guess they have been fighting for for forty or fifty years.

Now the thing that I have found in my study and in travelling around the country on projects is that the only way we are going to develop them is to push this Compact that these Commissioners are now trying to arrive at. That Compact is the first thing that must be prepared and submitted to our respective legislators and legislatures that meet in January or shortly thereafter. Whether this Compact can be prepared by then and ratified by the states within the next few months, of course, is a matter which this Commission will have to decide. But the one great problem to me is this Compact because we were told that the projects on the River will not be constructed, that is, any projects of any size, until the Compact is ratified or the waters at least upon some basis are allocated among the various states.

I am going to appeal to our people of Utah to cooperate in a complete development of the River. We cannot be selfish in this thing because we have in our small section of Southeastern Utah here some projects which we know must be built if we are to survive in this area. There are other large projects in the State which must be built. The question of trans-mountain diversions, of course, has got to enter into this picture.

I have found that the cost of these small projects is prohibitive upon the average farmer. He can't afford to pay for them and the only way they can be paid is by tying them into larger projects which can assume the largest burden of the cost. In other words, you can't saddle upon a "mill creek" project in Moab \$2,500,000, which is the estimated cost, and expect the people down there of a population of 2,000 to pay for it under the present Reclamation Law. It just can't be done. We must work out some system in this State either through our Legislature or the Federal Government, how these projects will be paid for because somebody has to pay for them; they aren't going to be given to us.

So I appeal to our people in Utah, let's look at this thing not from a purely selfish standpoint, but let's look at it from the standpoint, "How are we going to develop our State?" We are told now, due to the influx of industry in Utah and because of the tremendous growth on the Coast, we might expect 1,300,000 within five years in this State. If that is going to come, we must all work together and not work apart, and I think that has been one of our weaknesses in the past.

I am also going to say to our sister states, the Compact Commissioners here, you face the same problem we do. We ought to work out our projects in all the states together and see if we can't convince the Eastern Congressmen we need some money out here to build them. Otherwise we are going to be travelling along and I am going to be so old, like Rip Van Winkle that I won't see any built, and my little boy is going to have to wait to see

them built like I have for the last fifteen-twenty years. I want to see them and I know a number of you do. They haven't been built.

I think this is the first move I have seen toward the construction of these projects, the Compact we are attempting to work at now. If you gentlemen will go out and see some of the projects you will find that there must be in some instances multiple purpose projects because the cost must be divided up, and you certainly can't saddle it onto the farmer because if you do he can't pay for it. (Applause.)

COM. WATSON: We will take a five minute recess.

(3:05 p.m. Recess.)

(3:10 p.m. Hearing resumed.)

COM. WATSON: Ladies and gentlemen, it was my original intention to call on all of the water users in the Colorado River Basin first, but I think I will depart from that and call on many of them later. We would now like to hear from a member of the Metropolitan Water Board in Salt Lake City, Mr. Blair Richardson. (Applause.)

MR. BLAIR RICHARDSON, SALT LAKE CITY, UTAH: Mr. Chairman, gentlemen, I am sorry you didn't call on Mr. Gillman, President of the Provo River Water Users Association--

COM. WATSON: He will get it next time.

MR. RICHARDSON: --of which Metropolitan is a subsidiary--we are a stockholder.

I want to call the attention of the Commissioners to the fact that in building the Deer Creek Project and the aqueduct that goes into Salt Lake, about a third of the supply necessary to make that a success will have to come over from the Colorado side, and we hope you will give that full consideration in making water allocations to the various units that you will have to.

I have nothing else to add at all. If there is anything we can help you on, you will ask for us of course. But frankly, Mr. Watson, I don't know of anything else to offer at this time. (Applause.)

COM. WATSON: Mr. J. W. Gillman, President of the Provo River Water Users Association.

MR. J. W. GILLMAN, OREM, UTAH: Mr. Chairman, Members of the Commission, first I am from Utah, not any particular spot. I am interested in the entire State and its development. I have had water on the brain for a long, long time. Some folks tell me if I don't get some of it off I will be headed for the State Mental Hospital, and that applies to my family.

I am interested in transmountain diversions. Utah can't go without some transmountain diversions. We haven't sufficient water within the confines of our little state to do the job. If we are given a portion of the Colorado River, we only want our fair share of it, but we must have that if Utah goes where it ought to go.

That little project, the Provo River Project, will serve when completed more than 50 percent of the population of this State with a supplemental supply of water, especially for culinary purposes. The Bureau of Reclamation has that tunnel into the Duchesne River about half completed and the war came

on and the stop order was issued and it is dead. The balance of the project is going forward.

Now I am interested in bringing the water into the Strawberry Reservoir. I hale from Utah County and I live neighbors to Juab and Sanpete Counties and what not, and they all need some water and if our population is taken care of, water is the life's blood of it. We began to talk about it in my early days and such men as William R. Wallace--

MR. WILLIAM R. WALLACE: Before you were born.

MR. GILMAN: --Joseph R. Murdock, Dr. John A. Widtsoe, and I could mention others, with whom I served on the Storage Commission of this State some years ago, spent hours and days around the table devising ways and means to develop this State as far as water supply was concerned. We ought to pay tribute to them and never forget their efforts in our behalf.

So I say I am from Utah first. I am a director in the Echo Project in Weber, have been for about fifteen years, and I have seen what that project has done for us. We are already reaping our benefits from our Deer Creek Project on the Provo River and we appreciate them very much.

Gentlemen, if there is anything that the men on our Board can do to assist our State Engineer in this matter, I am sure they would be glad to do it. I realize you have a job on your hands. I would hate to be a member of this Commission. I wonder in my own mind what the basis for dividing the River will be, if it is contribution from our watershed, if it is on a proportionate basis, and then when you get that all done, I wonder, as Mark Anderson said, after that is done how are we going to divide it among ourselves. Thank you.

COM. WATSON: Mayor Mark Anderson of Provo, we would like to hear from you.

MAYOR MARK ANDERSON, PROVO, UTAH: Mr. Watson, Members of the Commission, ladies and gentlemen: This is a rather big subject for me to have anything to say about. I knew it was complicated and the more I listen the more complicated it becomes.

We over in Utah Valley have always felt that we were going to be on the receiving end of this Central Utah Project, but it diminishes a little bit when I listen to the possibilities of using this water over in the Uinta Basin. I thought out there in the Uinta Basin, after I went on a pheasant hunt, that the Indians had most of the good land out there, practically all of it, but they didn't have a great need for additional water, but I will admit I only covered a small area around White Rock.

I was just thinking here, it seems that we are talking about acre feet and second feet; I wonder why this division couldn't be made on the basis of percentage or proportion. It looks like that would be better. That is the way we do with our irrigation water, as I understand, throughout the State in most cases. It is a proportionate thing.

I wanted to say just a word in praise, though, of the Reclamation Service in spite of all the opposition to Bureaus. I think we have some that have made a great contribution to this State and the Reclamation Service is one of those bureaus. They have been very thorough. They have been plugging away for forty years. They have gathered information and they have followed a continuous policy in a way I think that no state or group of states could, and now we are waiting for them to give us the word on this Central

Utah Project. We all seem to be for it but the Reclamation Service hasn't said yet, I don't believe, whether the project is feasible or not feasible.

Now we would really be embarrassed if the Reclamation Service comes out after we have boosted for this thing and tells us that the project is not feasible. I don't know. Have they given us any answer on that?

MR. WILLIAM R. WALLACE: It's feasible.

COM. WATSON: Was that a question?

MAYOR ANDERSON: If it isn't all feasible, is a part of it feasible?

COM. WATSON: Did you wish that question answered?

MAYOR ANDERSON: Yes.

COM. WATSON: Mr. Larson, have you or Mr. Riter anything to say about that?

MR. J. R. RITER, BUREAU OF RECLAMATION, DENVER, COLO.: That is for Mr. Larson.

MR. E. O. LARSON, REGIONAL DIRECTOR, REGION 4, BUREAU OF RECLAMATION, SALT LAKE CITY, UTAH: We are just completing the Bonneville Basin Report the same as the Colorado River Basin Report for submission to the Commissioner of Reclamation, the Secretary of the Interior, and later to the states and to Congress. That report isn't available to the states yet, probably soon will be. And because of the project being in the Bonneville Basin, its feasibility and everything is discussed in that report and not in the Colorado River Basin Report.

As to feasibility, it is like a number of other projects. We give the cost, present day cost, power that will be produced, lands that would be irrigated, and then the feasibility depends on what law you are talking about or what law you are trying to get passed, and so on. So I don't think that is a matter that needs to come up yet.

It is in about the same category as a large number of other projects that are not one hundred percent repayable by the lands on which the water is being used. It is a multiple purpose project and it depends on how it is set up, just like a number of projects in the Colorado River Basin.

MAYOR ANDERSON: Thank you. We feel, of course, in Utah Valley--no doubt it will affect the entire State--that this project will aid us greatly, not only to help agriculture but to contribute also to the industrial development that is taking place in our locality, and we hope that that same development, of course, will be throughout the State.

I do hope that the Commission can work out a Compact at the earliest possible date because I read sometime ago in the paper that any development of any consequence would be impossible prior to reaching an agreement between the Upper Basin States. Thank you. (Applause.)

COM. WATSON: While we are over on the other side of the watershed, we have Mr. Elmer Jacob here, an engineer with Provo Utilities. Come up, Mr. Jacob, and say a few words.

MR. ELMER A. JACOB, PROVO, UTAH: I came to listen today and to learn rather than to try to instruct anybody about what I happen to know. As a matter

of fact, the more I study the water question--I am like one of the other speakers--the less I know about it because it is very complicated.

There is one thing, though, that I think we should agree on here today, if we can agree, in the presence of the Commissioners and the men who are studying the projects in the various states of the Upper Basin, and that is to be together in our idea of developing all of these areas, that we may go together. One project may come ahead of the other if it is feasible, seems more attractive, but I don't think we ought to have any hammers out in the way of limiting full development of any of these projects that are determined to be feasible.

The purpose of water development is to increase both development of agriculture and the development of our power resources. And the white water, the white power, is generally the cheapest power that we can develop. Now in this coal area here at Price, I realize there is a point of view that you men have that are mining coal. I would just like to say one word with reference to that.

There always will be coal-burning equipment in any industrial plant or fuel-burning equipment as auxiliary to any development of hydro power; I think, in this area that would be true. Our population increase is roughly proportional to industrial development. The maximum industrial development in the area here will be realized when we make the maximum use of our water resources, both for industrial and irrigation purposes, and with the development of that increased population, we will have concomitant development of our coal uses through use of the population, through use of standby power, ultimately through extraction of fuel oil and gasoline and gas from our coal products in this area.

That will be the ultimate end of the coal business and there isn't any question in my mind that the development of that population and our industry going along with it we are going to have a development of the coal resources and more intensive mining in the future than we have had in the past. (Applause.)

COM. WATSON: We would like to hear from a member of the Utah Water Users Association and one who was present at the writing of the Colorado River Compact, Dr. John A. Widdace. (Applause.)

DR. JOHN A. WIDTSCOE, SALT LAKE CITY, UTAH: I have been listening with a great deal of interest to the remarks made today. So many problems have been set up for us to think about. I have been trying to think them through. Like all the rest of you I am somewhat baffled.

However, I believe attacking every problem mentioned today is of secondary importance. That whether we have a transmountain diversion or not is not a primary question. Whether the water originated in Utah, Colorado, or New Mexico is a secondary question; whether the water has to be lifted or flowed by gravity to the farms is not really vital. I think the question that is of most importance hasn't really been touched upon and I want to give you my point of view.

I believe in the development of this country uniformly. Are we going to give every state a chance, an equal chance? Shall we make this Western country one country? Colorado would be in a very unhappy condition if she were surrounded by deserts; Utah would be equally unhappy.

This Commission, if I sense the proposition properly, is up against that problem. It may involve the elimination of a certain amount of human

selfishness, but this body should rise above selfishness. It takes courage-- not easy to do.

So if I would express my feeling it is simply this: that at this time we stand before one of the most important problems of the West, the effects of the solution of which will be felt in the years to come as we know, that is of making one whole West. State Lines are made by man. Nature made the real lines for us. And while we are composed in this country of a number of states, we are one.

I believe that is a big problem. If you settle transmountain diversions in terms of that problem and origin of waters in terms of that problem, we will come to a solution that we will all be happy about and it will bless us and bless our children.

I had the privilege of sitting through all the meetings and all the hearings of the original Colorado River Commission, and I saw selfishness, saw it and heard it paraded before the people. There was no peace in that Commission. There was no possible solution until the Commission began to understand they were working for one great country, a great Western Empire. It would have been very easy in those days for the Upper Basin States to have said to California, "You can't have all this water." But at last they thought in terms of the development of the West.

I am not here to tell the Commissioners how to solve that problem but that is a problem that has to be solved. I hope they may solve it well. (Applause.)

COM. WATSON: The gentleman who is President of the Utah Water Users Association and who himself has had many years of actual experience in water matters and who is the Dean of our group, Mr. William R. Wallace. (Applause.)

MR. WILLIAM R. WALLACE, SALT LAKE CITY, UTAH: Mr. Chairman, ladies and gentlemen: The tremendous amount of wealth that can be made from the application of our waters is well illustrated by the experience of the project on the Weber River. When the Echo Project was built, this condition had existed: Prior to that building of that reservoir, the gross income from that area was two million dollars. Last year it was thirteen million dollars. And the making of wealth, curiously enough, is probably almost the most important earthly job that a man can be engaged in.

If you go back to the ancient times, the time of Pericles in Greece, or the time of the Roman Empire or the time of the Renaissance in Italy, or England under Elizabeth or under Victoria, or the United States of America, what is the first thing you have got to have? It's wealth, because upon wealth is based leisure and upon leisure is based education, culture, and refinement.

So if we can take these waters and put them to the highest possible beneficial use, we will reach a civilization such as the world has never seen. That is a great objective.

People go very far in order to protect a water right. We have all heard about California, the very earnest efforts they are making to protect their situation for their future growth. I recently had a luncheon engagement with some important men in San Francisco who were insistent upon the statement of their belief that California by 1960 will have thirty million people. I agreed to give them twenty million but I couldn't stand the thirty million. Some of the people in Los Angeles estimate that California will have twenty million people by 1953.

Now changing the subject for a minute I would like to say a word or two about coal. The thing that built the German Empire and that permitted them to make the tremendous strength that they have exhibited for a long time is the Ruhr Basin and that is based on the coal. The thing that built the British Empire was the fact that they could establish their great industries there and that the British Empire practically was built on coal.

We have in this area or within not many miles of where I stand probably ten percent of all the coal known on earth. That is a pretty big statement, but the amount of coal is tremendous. Now as the years go by, you are not only going to use coal in the ordinary way for fuel, but you are going to produce gasoline and all the various elements that can be taken from coal, and they are countless in number--even the finest of medicines. So we certainly have an opportunity in this country that I think is almost beyond compare on the face of the earth.

I spoke of the fact that communities will pay tremendous sums to protect a water right and I don't think it would be amiss to tell you about the Metropolitan Water District of Southern California. Those people spent \$190,000,000 to bring the water from the River into Los Angeles and associated communities, but they had to borrow that money. By the time that plant was built to part capacity, they spent \$34,000,000 in interest, so the cost was \$224,000,000. They have a right on the River to 1,100,000 acre feet of water and the capacity of their plant as now built is 495,000 acre feet. The tunnels, however, are large enough for the entire capacity of 1,100,000 acre feet.

Their last report I have seen was up to June 1945. That year their operations went behind \$671,000. In addition to that they paid \$9,000,000 in interest. Now the interest had accumulated until at that time the cost was \$267,000,000. It isn't likely that they will use the entire capacity or get it in balance so their income is as much as their outgo for ten or fifteen years, so it is entirely likely that Los Angeles and the associated municipalities will have a total cost of more than \$300,000,000 before their income and outgo in any year are in balance.

I am just saying that to you because it is illustrative of the importance with which California looks upon having what might be called a standby water supply, a water supply that will protect them in their future growth.

I would like to go back to this Compact with which Dr. Widtsoe worked in 1922. The decision was made to divide the waters between the Upper and the Lower Basin States, giving to the Upper Basin the right to 7,500,000 acre feet consumptive use, the Lower Basin 7,500,000 acre feet of consumptive use plus the right to use an additional 1,000,000 acre feet, leaving what was supposed to be a surplus. At that time Representative Hayden--now Senator Hayden--of Arizona addressed a number of questions in writing to Secretary Hoover, and one of the questions was concerning the amount of the runoff, the annual runoff, of the River. Mr. Hoover replied that there were four to six million acre feet surplus, and the suggestion was that we might call it 5,000,000 acre feet. Sixteen million acre feet allocated would make the suggestion that the River contained 21,000,000 acre feet.

Take the two decades, 1922 back to 1912 and 1912 back to 1902, and in those two periods it is probable that Mr. Hoover was about right. But the estimate now is that the virgin flow at the Mexican Boundary is a little more than 17,000,000 acre feet, the virgin flow at Lee Ferry a little more than 16,000,000 acre feet.

What happened after the signing of that compact and the ratification of the compact and the contracts were made for the building of Boulder Dam? There was an attempt to tie up that surplus. The surplus, if any, in the River was supposed to be set aside and in 1963 an analysis be made of that and by the consent of all the states it could be divided. But an attempt was made to tie up that surplus and I think I may say without fear of successful contradiction, Mr. Arizona, that the Lower Basin States now feel that they are going to obtain all of that surplus and that there will be no possibility of the states of the Upper Basin dividing that surplus in 1963.

What I am arriving at is this: Our Chairman suggested that there are two thoughts concerning the division of this River, one of them being that this 7,500,000 acre feet should be divided now in part and leave a surplus to be talked about in the future. I object to that as strongly as it is possible for me to object to anything. Utah cannot wisely and efficiently plan her use of her share of that water until the basis of ownership is absolutely set, until it is definitely established, a certain amount of water or a proportion of that water in perpetuity.

If we don't do that we will have the same condition existing in this Basin that is existing in the Lower Basin, that somebody, some state, will do everything possible to put up a plan that will call for the use of that what we might term a surplus and will have the contention in this Upper Basin that they are now having in the Lower Basin.

When you come to the matter of getting in detail all the data influencing the division of this water you are asking for something that is impossible to obtain. Time will change data. And, Dr. Widtsoe, it is a delight to me to hear the statement you made that this is the United States of America. In the statement I made yesterday I made exactly that same statement, that this is the United States of America and that all of this water will be used in the United States of America.

Therefore, I am making this plea, and I believe in this I have the support of my associates, that this organization having in charge the making of a plan for the division of this water will agree upon the wisdom of dividing it upon a basis that we may go to the next session of the legislature with the understanding that we are to receive a certain amount of that water.

I have heard the suggestion that it be divided in percentages. Well, we had that matter up when we divided with Mexico, giving them a percentage. How would you like Mexican officials to be coming in each year to see if they got their percentage? It just simply will not work.

Now it's a fact that this is the greatest country in the world and I think there is no wisdom anywhere greater than that in the minds of the American people. But we can see what they are quarreling about, great things, all over the world, and surely we ought to set an example and this matter of ours ought to be placed on the table in such a way that all of these gentlemen in their wisdom can study it carefully and bring forward for consideration of the legislature a plan that will be acceptable.

We are not by any means upon an equity in the development in the Upper Basin. I speak very frankly about it. I think Mr. Bishop makes the statement that they have had no great project in the State of Wyoming. I know Mr. McClure of New Mexico has great project difficulties down there because he has a lot of Indians and the Indians apparently have a first right. The State of Colorado has been fortunate in this that they have one great project that is being constructed now. Our other three states have no such projects.

Now we would like to go ahead upon this kind of a basis: Granting that we have agreed upon the division of this water, what do we want to do next? In my opinion we should have an organization so strong and so influential that it can go to the Congress of the United States and say: "Here are four states. Each of these states wants a great project, the controlling project in the development of its water. We ask that these projects be approved at the same time and that the money be appropriated so that they may be builded at the same time." And if we have the water divided and our great construction works are builded at the same time, I am sure we will avoid much trouble and our relationship between and among these four states and the United States will be as nearly the right kind of relationship as it is possible for us to have.

I don't know there is anything else I have to say. I am proud we have in the State of Utah a group of men working cooperatively and as earnestly as they can. They recognize absolutely the rights of every other state and want to work just as harmoniously as it is possible for them to.

One other thing I want to say and that is this: We are peculiarly located in the State of Utah. The United States Government spent \$500,000,000 on the Wasatch front because of its relationship to the Pacific Coast and the defense of the United States. In addition to the coal which I have spoken of we have tremendous iron deposits, and because of the coal and iron deposits we have a \$200,000,000 steel plant. Based upon that steel plant we are going to have many, many subsidiary industries and we are going to have a tremendous growth. That growth is dependent upon water supply.

Incidentally, it might interest you speaking again of the Ruhr, with all the tremendous destruction over there, the coal mines were not destroyed and right at this moment the change in the Ruhr district is said to be almost a marvel, that there are right now a thousand industries working in the Ruhr district.

Gentlemen, we are looking forward in Utah to a development of that kind and we would like to say to this Commission that we would like to have every share of water to which we are entitled, but we don't want any more, and we feel very confident that wisdom dictates that the division of this water should be agreed upon now.

Let me stop to say I appreciate the value of water. There isn't any question about it, 50,000 acre feet of water is worth at least one hundred thousand dollars a year, and I would hate to give up 50,000 acre feet of water to any other state. But I do recognize the fact so emphatically referred to by Dr. Widdsee that this is the United States of America and we can go ahead and divide this water and so far as the United States is concerned, it can be put to the highest beneficial use to the benefit of all. Thank you, gentlemen. (Applause.)

COM. WATSON: Mr. Thomas W. Jensen of Mt. Pleasant, Utah, Field Representative for the Utah Water Users Association and for the Civic Clubs of Southern Utah.

MR. THOMAS W. JENSEN, MT. PLEASANT, UTAH: Mr. Chairman, ladies and gentlemen, all I want to say is "Amen" to what Mr. Wallace has so ably presented here. Getting speedy action on the division of these waters within these states and a fair and equitable division is what we are interested in.

I also represent the water users of Sanpete County, a little county in the center of this State that used to be known for many years, Dr. Widdsee

as the granary of Utah. But the last few years, on account of drouth, freezing and a few other obstacles to the producing of crops, Sanpete County has been forced to ship in annually millions of bushels of wheat and corn from other states and other parts of the State of Utah. We have had a project there which we are anxiously waiting to get built which will help supply supplemental water for some 25,000 acres of land. Our project will be held up. It has been passed, the engineering data, the reports and all, are complete. At one time prior to the war it was placed on the desk of the President under the Case-Wheeler Act to be constructed. The war came along and stopped that.

We are praying for some immediate help in Sanpete County. The farmers there have built up a civilization, they have their homes there, and we need water. Even though Senator Howard has stated that they don't want to see any transmountain diversion, I want to say to Senator Howard we don't want one drop of water in Sanpete that they can use beneficially in his area, but we do want it used in Utah.

I appreciate the job that you gentlemen are confronted with. I have listened to the hearings in Rock Springs and Grand Junction. I know the other states' problems are parallel to our problems, but let's get the job done and get it done so that we can present something to our several legislatures this coming session and get this River going under control so that we can use the water for our valuable lands. I thank you. (Applause.)

COM. WATSON: We wish to give everybody a chance to speak that chooses to speak. We should, however, I think at the present time have an engineering report from one of the members of the Bureau of Reclamation so that we can bring a lot of these facts together and understand them. I will call now on Mr. J. R. Riter, who is Chairman of the engineers of the various states that have been chosen to analyze this problem for the benefit of this Commission. Mr. Riter. (Applause.)

MR. J. R. RITER, BUREAU OF RECLAMATION, DENVER, COLORADO: The Engineering Committee of which I am a member works under the direction of the Commission. At the Salt Lake meeting late in July when the Compact Commission was organized, they directed that a representative of the Federal Government with a representative of each of the five compacting states meet together and formulate an engineering plan of study, the study that should be made to give the Commissioners factual information on which they can work. In other words, when you go to divide up a river, you just don't go arbitrarily and say, "You take so much, you take so much, and you take so much." We don't know what we are dividing.

One of the starting points is water, its origin, how much, what becomes of it. Pursuant to the instructions received at the Salt Lake meeting, the Engineer Committee met at Cheyenne, Wyoming, the last two days in August and prepared a report which was submitted at the Santa Fe meeting of the Commission in September of this year. The Commission adopted the recommendations and appointed a permanent Engineer Committee to work out the problems.

You people have met the Commissioners and you might be interested in knowing the members of the Engineer Committee. I was asked to be Chairman by the Federal Adviser and the Commission appointed me in that capacity. From Arizona Mr. R. Gail Baker is the engineer representative on the Committee. Mr. Baker has had considerable experience in analyzing water in Arizona. His position in that state is one of the engineers on the State Board, Land and Water Commission.

From Colorado we have three members on the Committee. Colorado produces a considerably great share of the water of the Colorado River and they have

many diverse problems so they asked for three members on the Engineer Committee. We have Mr. C. L. Patterson, who is Chief Engineer of the Colorado Water Conservation Board; Mr. Royce J. Tipton, who is a Consulting Engineer and who has had considerable experience in analyzing water and has studied the Colorado River for a good many years. Mr. Tipton was at one time employed by the Bureau of Reclamation. At the present time he is consultant for the Colorado Water Conservation Board. At one time he was consultant for the International Boundary Commission, and Mr. Tipton has had considerable experience in analyzing the Colorado River. The third member from Colorado is Mr. Frank C. Merriell, who lives at Grand Junction. Mr. Merriell worked with the Bureau of Reclamation at one time during the construction of the Grand Valley Project near Grand Junction, and he has had considerable experience and is intimately acquainted with problems on the Colorado River.

In New Mexico the representative is John H. Bliss, who is the Engineer Adviser to the Interstate Streams Commission.

In Utah the official representative is Fred Cottrell, the Deputy State Engineer. Most of you know Mr. Cottrell and know his work and his ability.

From Wyoming the engineer representative is H. T. Person. Mr. Person is professor of engineering at the University of Wyoming and is consultant for the Wyoming Compact Commission.

I won't attempt to try to tell you all the problems but the chief problem that we felt the Commissioners would want to know is the total amount of water. During the presentation that has been given here today I think the statement was made that in 1922 the original Compact Commission didn't have too much information on the flow of the Colorado River. It is true, of course, that there was a gauging station near Yuma, Arizona, which had been maintained since the early part of the century.

There were also gauging stations on the Green River at Green River, Wyoming; on the Green River at Green River, Utah; on the Colorado River near Cisco, Utah; on the Colorado River near Grand Junction, Colorado; and on the Gunnison River near Grand Junction, Colorado. They were the stations on the main tributaries. There were also some available records on the San Juan River.

The original commission used such information as they had but they were unable to divide the water among the states. They did recommend that Lee Ferry be the point of division. As a result of their work, the Geological Survey now operates a station on the Colorado River at Lee's Ferry and on the Paria at the mouth. Those stations have been operating since 1922. The sum of the two stations represents the flow at the compact point, Lee Ferry. I think Mr. Watson has explained that to you.

Now we do have fairly good records. As the states became water conscious, arrangements have been made to measure the streams. Many of the streams have been measured for varying lengths of time. All of them don't have thirty or forty years of record; some of them only have one or two years of record.

So in determining where the water comes from, our job is to try to find out the amount of water that originates in each state. Of course that involves a number of processes. The first thing we have to do is to tabulate the water at the existing gauging stations and then extend those records by comparison with other points in the watershed where measurements have been maintained for longer periods of time.

We will next have to estimate the runoff from various unmeasured tributaries. In Utah you have a number of tributaries which enter the Colorado River and the Green River which have not been measured. In some cases we might have a very few years of record. We will have to estimate the total runoff from those tributaries in order that the Commissioners can determine the amount of water that originates in each state.

Well, now, we know that irrigation development has been underway for a number of years. At the present time there are over a million and a quarter acres irrigated in the Upper Basin. We also know that water is used in transmountain diversion out of the Basin. In Utah you are all familiar with the Strawberry Project, you are familiar with the Sanpete Project, both of which were built by the Bureau of Reclamation. And you are also familiar with other transmountain diversions, small ditches that have been privately constructed.

So the next job then, we will have to analyze how much of the water is now being used and how much has been used historically in order to correct the flow to determine how much water would have originated from each state and how much water would have been at Lee Ferry under virgin conditions. After all, the 7,500,000 acre feet which has been allocated for use in the Upper Basin must include present uses.

We have another problem after we have determined where the water comes from, and that is what becomes of it. For example, in these main channels there are tremendous losses. So far no one has attempted to analyze how much those losses are along the main channels. That is important because the Upper Basin has an obligation imposed on it by the 1922 Compact of delivering at Lee Ferry for use by the Lower Basin 75,000,000 acre feet of water in any ten-year period. Naturally Wyoming wants to know how much water--that is, we presume that one of the terms of the Compact would be that each state will have an obligation to share in the delivery of that water at Lee Ferry. In order that they may know how much their obligation is they must know how much water is going to be lost from the time it turns it out at the State Line until it arrives at Lee Ferry.

Another question that will have to be answered and will have to be studied is the matter of reservoirs along the main stem. Mr. Watson mentioned in his opening speech that you have the coffee cup--I think he referred to; I don't know why he mentions your coffee cup in Utah, I think he should have said the milk bottle--but in any event you have to have the containers to hold this water.

The studies that the Bureau of Reclamation have made as the basis of our Basin Report which was recently submitted show that over a long period of years the so-called undepleted flow at Lee Ferry will average about 16,000,000 acre feet. Well, now, you people who are familiar with rivers know that a river is not constant every year.

For example, in a year such as 1909 you had in the neighborhood of 25,000,000 acre feet at Lee Ferry. On the other hand, you take a year like 1934 or 1940, the flow is less than 5,000,000 acre feet. Then if you take a ten-year period balancing your obligations against the water that you have, you take a ten-year period such as 1931 to 1940, the historical flow at Lee Ferry averaged 10,000,000 acre feet in that ten-year period. That is what actually happened with present-day uses.

Well, now, if we try to analyze, if we are going to restrict ourselves to the water we get in the lowest ten-year period, there isn't much room for future development. Projects have been started in the Upper Basin. Take the Colorado-Big Thompson in Colorado, the Provo River Project that has been referred to in Utah, those projects have been started. We know they are going to

take some water out of the stream.

By the time you subtract from the 10,000,000 acre feet which was there historically the uses that have been what you might say already encumbered, we have already obligated ourselves to make those additional uses; then we subtract the obligation of the 1922 Compact to deliver water to the Lower Basin at Lee Ferry; and also subtract the Upper Basin share of the obligation to deliver our share of the water to the Mexican obligation, there won't be very much water left if we restrict ourselves to the flow available in ten years such as 1931 to 1940, bearing in mind that over a longer period the average original supply is in the neighborhood of 16,000,000 acre feet.

That simply means, as I see it and as the engineers of the Committee see it, huge reservoirs must be constructed in order that those reservoirs will impound the flood water, the surplus water in years of high runoff, and then release those waters in years of low runoff. By that means the Upper Basin will be permitted to expand its development and at the same time meet our obligation to the Lower Basin and to the Republic of Mexico.

Immediately when you start building reservoirs you lose water by evaporation. So one of the problems that we must study is the reservoir capacities we need, and that involves also consideration of silt. These streams by the time they get down to where the reservoir sites are, particularly down at the end, are not clear mountain streams as you well know. They are heavily laden with sediment. We have to make an analysis of the extent the reservoirs will be impaired by sediment in the future. All these studies are necessary in order to determine the capacity of the reservoirs. We don't know the answers but it is a problem we must study.

Since the engineers received the assignment we have held two meetings--one in Santa Fe in August which I don't count; that was just merely to spread out some of the assignment. Early in October we had a meeting in Denver to report on the progress and receive additional assignments. We had another meeting last Friday in Denver. At that time we had received reports from some of the engineers who had been given assignments and they were passed out so the other engineers of the Committee could review the work of each other.

In other words, in this Engineer Committee we are trying to be absolutely honest and aboveboard to analyze the facts. One man can't do the job; it is going to take the united effort of all of us.

I don't know how technical this discussion has been, Mr. Watson, but those in brief are the problems that the engineers are working on, they are the facts that we are trying to dig up and the engineering opinions that we are trying to arrive at in order to give the Commissioners some factual information that you may have in your deliberations on how you are going to divide the water up in the stream. (Applause.)

COM. WATSON: Mr. Raymond Hammond, Utah Water Users Association Board Member from Tooele County, Utah. Will you say a few words, Mr. Hammond?

MR. RAYMOND HAMMOND, GRANTSVILLE, UTAH: Mr. Chairman, Members of the Commission, ladies and gentlemen, I and some others came here today for the purpose of learning. Up to the moment I have learned a lot.

I come from and live in a section of the country directly west from Salt Lake City. I heard one gentleman make a statement here this

afternoon that in his particular locality there was a tract of land comprising 15,000 acres that was badly in need of water. I would like to take this group into Tooele County, Rush Valley, Cedar Valley, Skull Valley, and show them 200,000 acres of the finest land that ever could lie outdoors waiting for water.

And I remember, Pres. Wallace, some twenty, twenty-five years ago there was a little land boom in that section of the country. It was reported--and some surveys were made--the waters of the Colorado River were going to be brought into that section of the country. Of course, it wasn't long before that bubble burst because it was found that there were no waters to be brought in because the State of Utah had no title. Those lands are lying there at the present time and we people from Tooele County are, first, as has been remarked here today, Utahns. We are for the development of this State.

We are on the last leg, perhaps, of that great project down there. There may be some water in the final for us; there might not. That isn't going to hold back our effort to promote the interests of the State of Utah.

I want to say this that if there isn't enough water and we don't get any--we know where this water is going to be applied or feel we do--perhaps you can prevail upon a Kind Providence to give us a little more rain because we only get nine inches of that. (Applause.)

COM. WATSON: Five minutes' recess--have a chance to stretch a little --and then we will start again.

(4:15 p.m. Recess.)

(4:20 p.m. Hearing resumed.)

COM. WATSON: Gentlemen, we have some water users here that have travelled a long ways to get over here and we will not hold them any longer. Let us give them a chance to say a few words. A group from Millard County is here. We would like to hear from Archie Gardner, County Commissioner and President of the Millard County Water Users Association. Mr. Gardner.

MR. ARCHIE O. GARDNER, DELTA, UTAH: Mr. Chairman, ladies and gentlemen, I came here like a lot of the rest of you, to hear something and learn something. I am just a dirt farmer from Millard County.

I am like the man from Tooele; we have at least 160,000 acres of very fertile land if we had the water on it. And we are willing to cooperate any way we can to get this water over into our State and some of it down into our county, we hope. Thank you. (Applause.)

COM. WATSON: Mr. W. C. Cole, Water Commissioner on the Sevier River. Will you make a few remarks, Mr. Cole?

MR. W. C. COLE, DELTA, UTAH: Mr. Chairman, ladies and gentlemen, I have learned considerable here today and I am very glad that I came. I am from the same area that Mr. Gardner is from. We are from over in Millard County where we have lots of land, some years lots of water.

We have 150,000 acres of land that could be supplemented by water if it comes to us. We have another fifty, seventy-five thousand acres of land that are now idle that could be put under cultivation. A lot of it would be very productive land, fruit land, orchards, and so forth, along on the benches.

I hope this Commission goes ahead and does what it can do. I think the Millard County people are willing to take what we can get, and we hope that

they solve these problems as they come to them and everything works out all right. Thank you. (Applause.)

COM. WATSON: Mr. Dudley Craft, prominent water attorney living in Delta.

MR. DUDLEY CRAFT, DELTA, UTAH: Mr. Chairman, ladies and gentlemen, those of us from Millard County of course, are greatly interested in the development of any of the resources that can be made here in Utah, and particularly the water resources.

Every time we get out there in that big flat, which is the biggest valley in Utah, and look across the prairie of thousands and thousands of acres of good land that is not under cultivation or in development, it hurts us to hear Mr. Watson say he was down there and saw those thousands of second feet of water running into the Pacific Ocean not doing anyone any good. If there is any feasible way to utilize that water for the development of our country or any other part of Utah we would like to see it done.

We are down there where we are water conscious. Those people in that valley have done something that probably no other people in Utah have done; by their own efforts and their own development they have utilized all of the water resources down there. They built the largest artificial reservoir by far in the State of Utah. They capture and utilize every drop of water that comes down there. The thing is there is that vast amount of land that could be put under cultivation if additional water was available. (Applause.)

COM. WATSON: Prior to hearing from the Juab delegation, which has come a long distance, we would like to hear from Mr. J. A. Theobald from Price. He is Secretary of the Carbon County Associated Industries. Mr. Theobald.

MR. J. A. THEOBALD, PRICE, UTAH: Mr. Watson, Members of the Commission, ladies and gentlemen, coming from Price and representing the Carbon County Associated Industries, naturally we represent one of the big industrial sections of the State. Primarily we are interested in water. I think the more water we can get the better business we are going to enjoy and the better our industry is going to be.

I think when Senator Howard spoke earlier this afternoon with reference to diversion his thought was that we people in this area, on account of the geographical situation of Carbon and Emery Counties, cannot hope to lose any of the water we have. We really need every bit of the water that is originated in this particular section. True, we are losing a lot of it now, and if our neighbors feel that they would want the water we are losing, we are losing it because we don't have the facilities for saving it. If we would have the developments of reservoirs in this section that have been promised to us for years and years, we would be using that water and would have plenty of chance to use it. In any allocation of water Utah may get, we need much more water than we are getting at the present time.

Getting back to the other question that our good friend Mr. Wallace spoke of--and I am certain there is not a person in that part of the State or any other part who doesn't appreciate the wonderful efforts that Mr. Wallace has put forth for water. The argument that comes in all the time, the cost of the development of power--one of the reasons we can't develop power with the big beds of coal that we have is the fact that we don't have water for condensation. We have to have water with this, got to prepare it where the water is. If we had more water we could develop power, cheap power.

Another thing, our counties down here are unfortunate because they are in the area that carries the great part of the water we are talking about today. The Colorado River runs through Grand and part through Emery County. The tributaries that furnish some of that water come through Carbon County, and still with all of that water, we have not a chance to use any part of it.

We heard a lot about the return flow of the water. We could benefit by the return flow of the water if we had the opportunity of doing it. But we are situated right in here between two ranges so that no matter what is developed on the other side, we are not going to benefit by it.

True, as Mayor Stringham said, they have industries over there. We recognize those industries, and they are important to our own industry in this part of the country, and we want the development in that section. But in doing that we don't want to see a development brought out that may be injurious to any other section. But as has been said here from time to time, the prime purpose of this meeting is to go to work and allocate this water, allocate to Utah her just proportion and allocate to all the other states.

When this Board gets through with those studies, the thing they are going to have to determine, then when that is done, it is time enough for us people to find out and argue and quarrel how we are going to use that water here. But just keep in mind that the central part of this State, Carbon County, Emery County, and Grand County can use four or five times as much water as we have right now if they take away the water that is flowing down past us in the other part of the country. (Applause.)

COM. WATSON: Mr. Reeve G. Richardson, Nephi Irrigation Company, Nephi, Utah.

MR. REEVE G. RICHARDSON, NEPHI, UTAH: Mr. Chairman, ladies and gentlemen, I represent an area of Utah--I don't suppose it is particularly peculiar to that one county, we are not asking for water to create any large development to create an influx of population--what we need is additional water to serve the population we have there and their project. We reached our economic limit of development about fifty or sixty years ago because we were utilizing all the water that was available. We made reservoirs and did work to increase that supply and have been unable to. The only source of supply we would have would be transmountain diversions from the Green River.

At the time our resources were limited and our development stopped, our children whom we raised and educated left our country and followed the Colorado River water to California. There they have had to go to get a living.

Now we are asking for enough water to utilize the lands we have under cultivation to their full economic limit and to increase or give us an opportunity for industrial development, which is finally started there. You people have probably heard that the Thermoid Rubber Company is building there. We are having one awful time to stretch the water to give those people the acre foot and a half of water they will need. And with that in mind, when they are built and that acre foot is supplied, we have no room for further development unless we can get a little more water. And as I say, the Green or the Colorado is the source of that water and we want some of it. (Applause.)

COM. WATSON: Mr. W. C. Andrews, County Commissioner, Juab County.

MR. W. C. ANDREWS, JUAB COUNTY, UTAH: Mr. Chairman, Commissioners, ladies and gentlemen, Mr. Richardson has very vividly spoken in regard to our location. We have all the troubles of Tooele County and Millard County, and we are between those two counties. We have practically the same arid country to be developed.

As Mr. Richardson said, we have now come in on the industrial side of it. I was just informed the other day that they are now attempting to expand the Thermoid Company to two shifts of 600 men on the two shifts. Now they contemplate a city of 2500 growing to 6000 people within the next three years. I will just illustrate.

They thought the great thing was power with them and we fought it out against other cities and at last we got the Utah Power in there. They never thought of the water until they asked us to send a stream of water down so they could settle the dirt in order to put in their cement. Well, water-- we couldn't furnish water to them. They come from New Jersey and Atlantic City, from the Atlantic Coast, and they couldn't understand why we couldn't furnish the water to settle the dirt before putting their cement in. That is the condition we are in.

The City has built a million gallon reservoir there. We have simply got to take the water from the farmers for culinary purposes. Water has raised from \$50 a share capital stock up to \$300 and we haven't any water to deliver for \$300 and yet people are coming in that have heard of the Thermoid plant. A number of people are coming back from California, and there we are. We must have water, ladies and gentlemen. We must have water in Juab County. (Applause.)

CCM. WATSON: Bert J. Sillman, Grand County Water Users, Green River, Utah.

MR. BERT J. SILLMAN, GREEN RIVER, UTAH: Mr. Chairman and gentlemen, I want to speak briefly on account of the lack of time. The people in the other counties have no monopoly on a lot of land that could be irrigated profitably.

The project I want to speak of is located in the Green River Valley on both sides of the river at Green River town and has been surveyed by the Reclamation Service. There are 15,000 acres readily available which could by a higher lift be increased. We are greatly interested in that. It is primarily a hydroelectric proposition.

We are greatly interested in the Dark Canyon Project about 85 or 90 miles south. It would seem that would not be a project in controversy between the Upper and Lower States. It would be mainly storage and power and a place to deposit silt.

Mr. Melich represents the eastern part of Grand County and he has told about Mill Creek above and what projects those people desire greatly. (Applause.)

CCM. WATSON: Mr. Peter McElprang, Emery County, President of the Huntington Canal Company, Huntington, Utah.

MR. PETER MCELPRANG, HUNTINGTON, UTAH: Ladies and gentlemen, Mr. Watson, I didn't come here to speak. I am a poor speaker. There is no use me telling you Commissioners anything.

We are over there in a little place, a bunch of poor people. We have got plenty of water in the spring of the year but in the fall, people are burning up. All we ask is a little assistance to let us build a few little reservoirs there to take care of what water we have got. People, we need it. We are all paying taxes now but if we can't store this water, it will be impossible and we will have to go on relief or something else. Thank you. (Applause.)

COM. WATSON: Mr. Clifton Wakefield, County Commissioner, Huntington, Utah. Is Mr. Wakefield here?

MR. C. N. WAKEFIELD, HUNTINGTON, UTAH: I haven't happened to listen in on the last two or three speeches that have been made here, but we in the Emery section, we have four rivers running through Emery County and each river has quite a runoff in the spring of the year but in the late summer, our streams dry up and we are terribly in need of water for the late crops. We can't raise anything in Emery County but hay and grain--row crops are impossible--because of the late water. It has been proven that we could raise sugarbeets, potatoes, crops of that kind if we had the late water.

Some of the associations are trying to build reservoirs themselves, spent a little money, not asking for any help, but we definitely need reservoirs on every creek in Emery County. If we can get that we will be satisfied. (Applause.)

COM. WATSON: We will now hear from County Commissioner Will Campbell, Carbon County.

MR. WILLIAM CAMPBELL, PRICE, UTAH: Mr. Chairman, gentlemen, I haven't made much of a study of this. I have today gotten more information than I have altogether in the years that I have been here. I don't believe I have anything to say that will be of any value or interest to you people here. Thank you. (Applause.)

COM. WATSON: We would like to hear from Attorney Gerald Irvine of the Utah Power and Light Company, who is here. (Applause.)

MR. GERALD IRVINE, SALT LAKE CITY, UTAH: We can't develop the State of Utah with the waters of the Colorado River flowing down into the Pacific Ocean. To develop the State and bring new industries into the State and develop our cities we have got to find some way to put the water to work, and the only way we can put it to work, as Mr. Wallace has said, is to obtain title to the water so that the Federal Government will be willing to assist us.

Naturally we are, as all of the rest of you are, very much interested in development of the State of Utah. We have watched Mr. Wallace for a number of years and Dr. Widdsoe in their very fine effort in this behalf, and we are very much interested in the projects and of course endorse what has been done here today. (Applause.)

COM. WATSON: We would like to hear a few words from Tom McCoy of the Municipal League.

MR. TOM MCCOY, SALT LAKE CITY, UTAH: Mr. Chairman, my purpose in being here is to learn what your problems are and I am very happy to be here but I don't believe I can add anything to the meeting at this time. Thank you. (Applause.)

COM. WATSON: I would like to introduce one gentleman who has done excellent work and is known nationally, one of our engineering advisers who has contributed considerable to our engineering work, Mr. Clarence S. Jarvis. (Applause.)

MR. C. S. JARVIS, SALT LAKE CITY, UTAH: I heard somebody say that his friends had accused him of having water on the brain. Well, I was associated with Joseph R. Murdock and they used to say that about him. He is a grand old man. He would go after water wherever he found any trace of it and I was his engineer for some years on the Provo Reservoir, Utah Lake irrigation, Union

Reservoir--that is a development of the lakes at the head of the Provo River. And finally I had something to do with the enlargement of the Sevier Bridge Dam.

I have had practical experience with the Chief of Engineers in Washington and especially in the last unpleasantness. And I should say that it will take the application of all the experience that has ever been stacked up in trying to find the way to solve this Colorado River problem, and I am with you on that. (Applause.)

COM. WATSON: I had overlooked one name that I was just reminded of, Mr. Ervin Wimber of Castle Dale.

MR. ERVIN WIMBER, CASTLE DALE, UTAH: Mr. Chairman, Members of the Commission, ladies and gentlemen, I have been very interested in water development throughout Southeastern Utah for many years. I feel like a good many other gentlemen expressed themselves here today, that these waters in this State of Utah are the life blood of the State.

Before we can carry on or go on for any future developments in industry and agriculture and all the way through, I think we have got to have this water developed. As far as transmountain diversion is concerned I feel that it would be a fine thing inasmuch as power developments I think would go along hand in hand with coal developments. I don't feel that the power interests would hamper the development of coal in this section at all, although I feel that our small reservoir projects throughout this Southeastern Utah should be guaranteed and that we should have a right to develop this water along with the rest of the waters of this State. (Applause.)

COM. WATSON: I should like to hear a few words from Dr. F.R. King.

DR. F. R. KING, PRICE, UTAH: Mr. Chairman, ladies and gentlemen, I came in a little bit late but I will venture to say there was quite a little accurate information distributed before I came in if we are to judge from what I have heard since I did come in.

And notwithstanding the fact that I have been living in this state a good many years, I learned a few things today. The title of the water is paramount, as our friend Wallace advises, and of course that is the object of this meeting, to get an equitable division of that water. After that the problems that arise can be settled as they come along.

I don't think I could add a thing to what has already been said and I don't think I have any information in addition to the information that you gentlemen have. Thank you. (Applause.)

COM. WATSON: Ladies and gentlemen, I wish to compliment you on making your remarks brief and to the point. You know words are like the rays of the sun: When they are dispersed they don't burn but when they are focused they have power.

Now there may be a few I have overlooked and I wish you to forgive me for overlooking you personally, but if you are here and wish to say anything, you now have the opportunity to volunteer.

MR. WILLIAM R. WALLACE, SALT LAKE CITY, UTAH: Mr. Chairman, I am afraid you might overlook me. There is just one little statement that I would like to put in that record for the benefit of your group. The State of Utah covers 54,000,000 acres; 300,000 acres is the limit of the watered

lands in the State of Utah that have a full season water. We have 1,300,000 or in that neighborhood that we are trying to irrigate, but 1,000,000 acres of this 1,300,000 have a deficient water right.

Nothing could be more impressive than that statement in proving to you the necessity for our having our full and equitable share of the waters of the Colorado River. (Applause.)

COM. WATSON: Are there further remarks anyone wishes to make?

MAYOR B. H. STRINGHAM, VERNAL, UTAH: Mr. Watson, if you are about to close I think we should go on record as giving the Commission a vote of thanks for this fine, democratic opportunity for expressing ourselves. May I so move? (Second.)

COM. WATSON: It has been moved and seconded that we thank the Commission for this democratic opportunity of expression. (Thereupon a vote was taken and the motion of Mayor Stringham carried unanimously.)

MR. WALLACE: Off the record. (Remarks off the record.) I think every man here ought to have a word to say.

COM. WATSON: Every man has an opportunity.

MR. J. EARL LEWIS, PROVO, UTAH: I have been intensely interested in this fine opportunity that we have been extended by the Commission this afternoon. It is needless for me to say that we are interested in getting more water in Provo and in Utah County; that has been previously said. But we are not the only county in the State. Every county in the State and every vicinity in the State has the same problem and should have an equal opportunity for development.

Last week I had the privilege of attending a convention in San Francisco, a water works convention. At this convention there were representatives from California, Southern California especially, and Arizona. And I came here with a firm conviction that unless we in the Upper Basin States work unitedly and work now we are going to lose some of our water to California and to Arizona. It is time for us to move and to move rapidly right now.

In this State we are a large, homogeneous lot. We don't have selfish interests of any particular area in the State. We can't isolate ourselves. But we are so knit and united together that we should ever act jointly for the benefit of this State and for the good of this State expend united efforts to obtain for Utah its just share of the water.

And we urge this Commission to be fair in what they do and give us just our just share. We are not asking for any more, not a drop more, only our just share. Then we who sit here strategically located in a fine spot where agricultural development may be had and industrial development may be had, then we will have the means for that development and it will accrue to the benefit of the United States. (Applause.)

COM. WATSON: I understand that Vasco Tanner of Provo is here. We would like to have a few words from him.

MR. VASCO M. TANNER, PROVO, UTAH: Vasco M. Tanner, Vice President of the Public Utility Board, Provo City; also connected with Brigham Young University.

We in Provo feel keenly the need of additional water as has been said

by our Mayor and Commissioner and Mr. Jacob, who is the Superintendent of our Utilities. We are especially anxious to have water for one reason, that of developing hydro power. We have great need for cheap power in Utah County and we believe that by bringing water from the Green River or some tributary of the Colorado River, bringing it over the Wasatch and developing power from it, and then diverting it into agricultural areas, that we can greatly enhance that part of the State of Utah and in turn enhance this Western area. Thank you. (Applause.)

COM. WATSON: We wish to hear from Mr. Harold R. Morris of Delta. (No response.) We have a lady present, Mrs. Mayme Jameson; it would be a shame to adjourn without calling on her for a few words. Mrs. Jameson. (Applause.)

MRS. MAYME JAMESON, DESERET LAKE, UTAH: Mr. Watson and Commissioners, I am very interested in water. I found out last summer that my land wasn't worth two bits an acre without any water on it. We had 125 acres of beans planted and in the early part of the season we could put on 30 or 40 rows of water; it went down to 20, then 10, then one or two, and I went up the creek and there wasn't a drop of water and we went the rest of the summer without any water.

We want to have Emery County water developed. We feel that we have water there if we can take care of it, but we don't want Sanpete to tunnel through the mountain and take our water that is up around the mountain. (Applause.) If you can take it from the Colorado River and up through Provo and scatter it through Sanpete we will be glad to see it. Any water that runs from Emery County down into the Colorado River, they may have that. And we will appreciate anything you folks can do for us. Thank you. (Applause)

MR. WILFORD J. HUMPHREY, ORANGEVILLE, UTAH: Some of the gentlemen from Delta and down in that country say their boys go to California. You saw Mr. Wimber going by. For lack of water he went to the coal mines and he lost his leg; most of our boys lose their lives. If we don't get more water through Emery our boys have got to go to the coal mines. We haven't asked for much water but we would like what water goes by stored in our reservoirs. (Applause.)

COM. WATSON: We are going to get everybody. Who else hasn't spoken? Mr. Thomas Latimer, City Engineer from Provo, is here. He and I used to go to school together. I believe he will say a few words.

MR. THOMAS H. LATIMER, JR., PROVO, UTAH: You have got me on the spot, Ed. As it has been stated, Provo's interest is very much in the way of production of power and we want to get what we can but we don't want to get it to the detriment of anyone else. We are Utahns and we also are Americans. Thank you. (Applause.)

COM. WATSON: Mr. Felch.

MR. FRANCIS FELTCH, VERNAL, UTAH: We would like to have our first say and get in toward the end also.

There is just one point that I think the boys from our section didn't mention. No doubt you people know all about it but in the Echo Park Project, which we feel is the key to the Central Utah Project, there is just a little bit in Colorado and we would like to have our Commissioner from Colorado know that there is going to be a lot of surplus power and water for their section of the state. (Applause.)

MR. C. S. JARVIS, SALT LAKE CITY, UTAH: Wouldn't it be in order to have introduced to this assembly Mr. Wilson, who is in charge of water measurements, which is so important as we develop this project?

COM. WATSON: Mr. Wilson in charge of the U. S. Geological Survey stream measurement. Mr. Wilson.

MR. M. T. WILSON, U.S.G.S., SALT LAKE CITY, UTAH: You want me to say a few words?

COM. WATSON: Yes.

MR. WILSON: There isn't much that I could add that wouldn't be a duplication of or supplemental to the report that Mr. Riter has just made. Some of you may not be entirely familiar with the place of the Geological Survey in this water development. Geological Survey is responsible for collecting the basic information, for operating these gauging stations which Mr. Riter has explained to you in working up the water supply for the different sections. He has covered in considerable detail the water supply in the Colorado River Basin and some of the difficulties. You may be interested in some of the recent work that the Geological Survey has been doing.

He mentioned the fact that our streamflow measurements are lacking in many localities--I am speaking principally for the Utah section because the work we handle out of Salt Lake City covers Utah and Nevada and our work is in cooperation with Mr. Watson, the State Engineer, and the other Federal agencies in collecting this basic information.

Prior to 1941 we were operating in cooperation with the State of Utah only 20 gauging stations in the Colorado River Basin. That of course has been greatly increased since that time in Utah. At this time we are operating 60 gauging stations in Utah and many of those have been installed at the request of the Bureau of Reclamation.

Some very recent work that we have been doing, a boat trip was just completed on the Colorado and Green Rivers. A party of four with two boats left Linwood, Utah, at the Wyoming-Utah State Line and travelled down the River all the way to Lee's Ferry, measuring all the tributary inflow to the Colorado and Green Rivers. In addition we measured the main stem at strategic points between 50 and 100 miles apart. When this boat party reached Green River, Utah, one boat was taken overland to the Colorado-Utah State Line and continued from there down to the junction meeting the first boat and then continued on down to Cataract Canyon and Lee's Ferry.

Those measurements have just been tabulated but they have not been analyzed. To give you a brief picture of some of the possibilities of this work: In a section of the River Linwood to Taylor Ranch, for a distance of 50 miles, the tributary inflow measured was 60 second feet. The measurement of the River at the State Line and the measurement of the River at Taylor Ranch showed a difference of 11 second feet. In other words, we lost by evaporation, probably by evaporation and transpiration, 49½ second feet in that reach of the River. That is a solution to some of the problems that will be faced in this Commission.

In the next reach of the River down to the mouth of the Yampa there was an apparent loss of 7.6 second feet. That is some of the work that the Survey is doing at the present time in cooperation with the State of Utah.

It has been mentioned here that the silt problem in the Colorado River Basin is a very serious one. The Geological Survey is maintaining base gauging

stations on the Green River at Green River, Utah, and on the Colorado River below Cisco and on the San Juan River at Bluff, where in addition to the streamflow measurements we are obtaining considerable information as to the silt carried in the Colorado River, and that work is also being accomplished in the Lower Basin.

The silt suspended in the Colorado River passing Lee's Ferry is really surprising. The average silt is one-half million tons passing the Lee's Ferry gauging station! The silt records kept on the Green River, Colorado River, and San Juan River accounts for 60 percent of that silt. The other silt contributed comes primarily from the area between these stations and Lee's Ferry, which we know very little about. Last fall in cooperation with the State Engineer we established gauging stations on the lower Price River, on the San Rafael, on the Dirty Devil, and we are now starting to collect silt samples at those stations which will help us determine where our silt is coming from.

UNIDENTIFIED VOICE: Half a million tons for how long?

MR. WILSON: The average silt passing Lee's Ferry is a half million tons each day. Thank you. (Applause.)

COM. WATSON: I wish to say this, ladies and gentlemen, that the State Engineer's office cooperates with practically all Government agencies and that cooperation has been very, very profitable and very pleasant. There has been no evidence of this so-called bureaucracy we read of in the papers at all. Everything has been thoroughly cooperative and the state laws have all been kept. So as far as I am concerned in the State of Utah, I know nothing about this claim that the newspapers make of bureaucracy. In fact, I think the bureaucrat is a job that someone has that a guy on the outside doesn't have and wants to get. Our association with the Bureau of Reclamation the U.S.G.S. and all the agencies have been very pleasant.

Now, Mr. Larson, have you or anyone in your group anything to say?

MR. LARSON: No.

COM. WATSON: The Chairman will call upon the Commissioners so I will now turn the meeting over to the Chairman of the Commission.

THE CHAIRMAN: On behalf of the Commission the Chairman extends thanks to each and every one of you that has appeared here today and for the contributions that you have made in the way of suggestions. I want to compliment those who have spoken on the brevity and yet to-the-point remarks. These meetings seem to become more interesting the farther we go. Tom, we are expecting great things at Farmington.

Before I call on the Commissioners to make a few remarks I want to refer to the matter of feasibility of projects which was brought up here today by several speakers and very well explained by Mr. Larson. It is a very difficult thing today to say what is a feasible project. Your Chairman is speaking now as an individual and not as Federal Representative or even as Chairman. But costs have risen on these projects and I am wondering if there is a project that is feasible at all under the present Reclamation Laws in the Colorado River Basin.

So it would seem that if you expect to have development in the Colorado River Basin it will be necessary for complete unanimity and agreement and to secure something like the authorization and approval that was obtained in connection with the Missouri Basin development on which Commissioner Stone

Commissioner Bishop, and my legal adviser, Jeff Will--and I would like to have him stand up at this time (Mr. Will stands)--worked with me in securing authorization. I think we are all rather proud of our accomplishments on that but it took great effort and great work and a united front, and the Missouri Basin was authorized as a result of that.

The fundamental principle of reclamation was kept in that authorization in that the farmers are required to pay what they are able to pay.

That is a special authorization and in my humble opinion you will not get these great developments on the Colorado until this Compact is consummated and until you can present a united front for concurrent construction in these various states. You will all have to be agreed on it and go forward together.

At this time the Chairman wishes to call on Commissioner Carson of Arizona to make any remarks that he wishes to make.

COM. CARSON: Mr. Chairman, gentlemen, I think that I should explain, perhaps, briefly why Arizona is represented on this Upper Colorado River Basin Compact Commission. You have thought of Arizona always as a Lower Basin State, which is our primary interest. But we also under the definition of the Upper Colorado River Basin made by the Colorado River Compact are an Upper Basin State.

We have some 6600 square miles of Arizona which is in the Upper Basin so that in the apportionment of the Upper Basin water, that 6600 square miles is entitled to a share. It will not require much water for that. Most of it is on the Indian reservation and our engineers say that it is not possible to divert water from the San Juan River or the main stream of the Colorado back up onto that Indian reservation land. So that it will share in any compact negotiated only to the extent of the water that falls on it which cannot be used in any other Upper Basin State, which will be small in quantity; and there will be a very small quantity from the Paria River and that will be the extent of our participation in the water of the Upper Basin.

But now on account of some other remarks that were made I would like to speak briefly for Arizona as a Lower Basin State. Arizona is a part of the Lower Basin. The division of water of the Colorado River system between the Upper Basin and Lower Basin is made by the Colorado River Compact. Arizona is a party to that Compact and Arizona respects her commitments and agreements, and Arizona does not now or at any time in the future intend to infringe in any way upon the water of the Upper Basin which we have agreed that you may beneficially consume. We are not a party to any of the California attempt to block any development in the Upper Basin or to claim any part of the Upper Basin water. We are in fact ourselves in a fight with California in our attempt to utilize our share of the water apportioned to the Lower Basin, which California is apparently determined to block if possible.

So our battle is not with the Upper Basin at all. We have agreed with the Upper Basin as to their use and as to our use in the Lower Basin, but we do have a battle with certain California interests who propose, apparently, to block our effort to use our share of the Lower Basin water, and I believe also to block any effort of the Upper Basin to use its share of the Colorado River water.

It seems to me that insofar as that situation is concerned, we and the Upper Basin have a common interest to promote the development of the use of water in the Upper Basin which is apportioned to the Upper Basin and that part of the water of the Lower Basin which by California Limitation Act is effectively apportioned to the State of Arizona.

In approaching the Upper Colorado River Basin Compact I want you to know that I, and I think all of these Commissioners, realize fully the tremendous task and responsibility which we are undertaking. We are approaching it as carefully and as painstakingly as possible because we know that the thing that we do must be ratified by the legislatures of the various states and when and if so ratified will affect the development and progress of every state of the Colorado River Basin for many years to come. So we want to be careful. We want to be as careful as we know and as fair as we know.

The function of the Commission, however, is merely to apportion water between states as states. It cannot apportion water between projects within states. As I view it when the apportionment is made and becomes effective, then the state law will take charge of the share of the state water and will govern its utilization and administration. Thank you. (Applause.)

THE CHAIRMAN: Commissioner Bishop, do you have a few remarks to make?

COM. BISHOP: Yes, Mr. Chairman, I might make a few remarks. Ordinarily I come last on account of "W" being the last letter of the group. I appreciate being called on ahead of my turn.

First, ladies and gentlemen, I want to say that I am glad to be with you and I am glad to go to these meetings and listen to the problems of the people of the other states. Your problems in all of the other states are much the same as our problem. In Wyoming we have over a million acres of land that can be irrigated from the Colorado River. More than half of that land is desirable, irrigable land. We too have great industrial possibilities and we need lots of water. We probably need more water than our equitable share. I realize that is one of the problems this Commission has got to solve. I for one am glad to sit in and help to solve that problem. I know it is a difficult problem to solve. The record of yesterday shows concerning matters that I wished to go in the record and I will not go as far today as I did yesterday.

Regardless of the basis used by this Commission for dividing this water, we believe our needs will be fairly considered. As I stated yesterday at Grand Junction, I hope to see this Commission go ahead and complete the negotiations and not wait for completion of the work of the Engineer Committee. Regardless of the accuracy of their work it is agreed by most of us that their findings will not be used as a basis for division of the water; it will merely be a factor among its considerations.

I will conclude by saying that I believe in all of the states the supplemental needs in the Basin should come first in the Basin--I want to stress that. This is a matter to be considered in each state and is of no concern to the Commission once the water is divided; but as a member of the Commission I pledge first consideration to these supplemental needs whenever called to my attention. I thank you. (Applause.)

THE CHAIRMAN: Commissioner Stone of Colorado.

COM. STONE: Mr. Chairman, ladies and gentlemen, the principal purpose of our appearing here today is to obtain the views of those who are primarily and directly interested in the utilization of the Colorado River waters. It is therefore a privilege and a pleasure to come and meet and hear so many speak and so many explain the great need of and their interest in the development of the Colorado River.

I enjoy always coming to Utah where you have an outstanding citizen, not only of Utah but of the entire Colorado River Basin, a man who for many years, ever since the Colorado River Compact, has worked not alone for Utah--although he has done a good job there--but for the interests of the Colorado River Basin and particularly for the interests of the Upper Basin. I refer to our good friend, William R. Wallace. (Applause.)

I had not known personally another gentleman in Utah but perhaps he does not know how well we know of his work in Colorado. Some of it was almost pioneering work in developing some of the details of water utilization. We had the pleasure of meeting him this morning, Dr. Widtsoe, and we were so glad to have him with us. (Applause.)

Here today, as is perfectly natural, we have heard much about the apportionment among the states of that block of water which was allocated to the Upper Basin by the Colorado River Compact. That allocation to us for beneficial consumptive use carried with it an obligation and, if you please, it was an obligation under a solemn compact. I refer to the obligation of making deliveries from the Upper Basin of water at Lee Ferry. That must indicate to you clearly that difficult as the tasks may be for this Commission to allocate water, it becomes even more difficult when we must determine the respective obligations of these four states of the Upper Division to meet our requirements under the Colorado River Compact at Lee Ferry.

We became signatory to that Compact and I believe that I speak for all of the states when I say that we mean to carry out the agreements which we made under the Compact. If we make a compact here--and I sincerely trust that we shall--then it must be a compact which will be not only ratified by the states but one which the states will sincerely as sovereign states carry out after it is ratified and approved by Congress. We cannot emphasize too much in approaching and carrying out the job we have assigned to us, the importance of determining the just and equitable obligations of these states which are placed upon us under the Colorado River Compact. When we think of the benefits through allocation of the waters we cannot in this Commission forget the obligations.

Some of the other speakers have emphasized this point but I wish to touch upon it briefly, namely, the primary obligation in making allocations to the respective states of the Upper Basin. Our job is tough enough in determining what is equitable and fair so far as each state is concerned. I might say that we should thank God that we don't have to determine the internal problems within each state. That is the job which you of Utah and which we of Colorado must determine ourselves when we know how much water constitutes our share of the Colorado River.

We heard some remarks here today about transmountain diversions. That too is your problem. I might only remark that we have the same problem in Colorado. However, we have established in Colorado by common agreement a definite formula upon which we believe transmountain diversion can be carried out and without injury to the basin from which the water is taken. It is the established policy in Colorado that no water shall be taken from the natural basin for exportation to another basin except that we protect in such exportation the present and the prospective uses, if you please, within the basin. Where there is additional water supplies over and above what can be used beneficially within the basin, then we believe that to the extent that it is within the state's equitable share, we would rather use it without the basin in Colorado than permit it to flow down the river for the use of some other state. In that way only can we accomplish the use of all of our share of the water.

Just one other question: You were presented here an explanation of

of the work of the Engineer Committee. For one I deem that of extreme importance. It has been said here today, and in other meetings, that those pioneers who wrote the Colorado River Compact did not have as much information as we have today. It has been intimated perhaps the compact would have been different as approved by the states if that information were available. Likewise it has been said here today that we are more fortunate, we have more studies, we have more data, we should do a better job. However, we shall be derelict in our duty if we do not make full use of that data through the engineering committee which the Commission has set up. We may even breed trouble in the future unless in determining the allocations we have the basic data not only available but fully understood and analyzed.

It has also been my observation in making other compacts that in working out the basic data, in appraising the physical facts, we resolve amicably many questions which otherwise would lead to controversy. It is just like anything else, no man wants to proceed and speak with respect to the rights and interest of his neighbor or a neighbor state unless he knows whereof he speaks; particularly is that true when we are looking so far into the future.

I think it was so well brought out here that we have a common interest. These five states constitute an empire. We must grow together. We must develop together. Likewise we must be fair and fully recognize each other's interest in making an equitable apportionment. That word "equitable" is the important thing. Sometimes we call upon the courts to determine "equitable apportionment." Here we are attempting to do it as has been done in other cases, by amicable relations and the working out of amicable adjustments, and determine just what is equitable. It is easy to use the term but it is not so easy to apply it.

But we must keep in mind that we have a common interest and if we show our capacity to take care of our common interests, to that extent we retain some of those rights for which as states we have been fighting for so many years. We cannot enjoy those rights without assuming at the same time the obligation of showing that we can use those rights and exercise them in an equitable and fair way on interstate streams.

It has been mentioned here that this compact must be ratified. That cannot be too fully emphasized. The Commission does not make a compact. It is engaged in negotiating a compact. That compact is made by our respective legislatures when they ratify it and even then it must be approved by Congress. If we proceed cautiously, if we can go before our legislatures and sustain our action by the facts, if we proceed with a full knowledge of the far-reaching effect of what we do, then I think we have a reasonable chance of obtaining ratification by our several legislatures. That is the democratic way, That is the way by which our people through the legislatures appraise our work; and a careless job I fear will not be appreciated. We should proceed cautiously and we want to do a fair and equitable job.

I assure you that within those limits the State of Colorado will attempt to expedite the making of a compact. (Applause.)

THE CHAIRMAN: Commissioner McClure of New Mexico.

COM. MCCLURE: Mr. Chairman, ladies and gentlemen, I don't believe there is much I can add to what has been said by Com. Carson and Judge Stone. I think we all fully realize the problems that we are going to have to meet in these negotiations.

The only thing I wish to do is to thank the people of Price and the various counties who have appeared here. Their observations and views in regard to their various projects have given us a better viewpoint from which we can realize each state's needs, which will help us in arriving at an equitable allocation of these waters, which is our duty. I believe that is all. Thank you. (Applause.)

THE CHAIRMAN: Commissioner Watson, as you gave such an interesting historical recital and conducted this meeting so ably, I will not impose upon you by requesting any further remarks unless you wish to make them.

COM. WATSON: Thank you very much.

THE CHAIRMAN: Now you all realize that this Commission has a tremendous job, but your Chairman is very happy to say that we feel we can work the matter out.

Your Chairman is not a complete stranger to Utah. In fact, there is one man here that I think I have known longer than I have any of you. Consulting Engineer Jarvis and I were in the University together and I always looked upon him with great admiration and respect because as I recall he was the honor man of our class. I am very happy that we are going to have his assistance in working out this problem.

Another man, Dr. Widsøe, I think I have known for about twenty-two years, and I knew of him before that by reading his articles and his books. I am very happy to have Dr. Widsøe here today. We have kept up our acquaintance from time to time. He used to visit the Commissioner of Reclamation in Washington and I was always happy to see him.

Mr. Wallace is another old acquaintance of mine and I have known of his works longer than I have known him; but the longer I have known him the more I have admired him for his wisdom and his counsel.

With that same spirit of cooperation in all of these states and with the best technical help and experience I am sure that this can be worked out. Your Chairman realizes it is a tremendous job as well as anyone else. The President appointed me Federal Representative in July 1946. That was after I had retired from the position of Commissioner of Reclamation and I had made up my mind I was through with Government work. I didn't want anything more to do with it, I thought. But when Commissioner Straus called me up on the telephone one day and said the President was thinking about making the appointment and wanted to know if I would accept it, I just couldn't resist it because I thought here was an opportunity to render a real public service.

I have followed this reclamation work for about forty years and I am thoroughly sold on the benefits of reclamation. I assure you that I am going to do all I can to ride herd on the Commissioners, crowd them along, help them if I can, and work out the job in a thorough, fair manner.

I don't know if there is any further business to come before the meeting today. If anything has been overlooked we will be glad to have our attention called to it. (No response.)

If not, a motion for adjournment is in order.

COM. STONE: I so move.

COM. WATSON: Second the motion.

THE CHAIRMAN: It has been moved and seconded that we adjourn.

(Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

(5:35 p.m., October 31, 1946, Price, Utah, meeting adjourned to 8:00 a.m., November 2, 1946, at Farmington, New Mexico.)

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Official Record of Meeting No. 3

Executive Session Held at

8:00 a.m.

November 2, 1946

at

City Hall

Farmington,

New Mexico

APPEARANCES

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Membership as listed at Rock
Springs, Wyoming, Session
(page 1)

Chairman, Acting Secretary, and all Commissioners
present except Thomas M. McClure, Commissioner
for the State of New Mexico, Commissioner McClure
appearing by Fred E. Wilson

ADVISERSTO THE CHAIRMAN:

J. G. Will

Assistant Chief Counsel, Bureau of
Reclamation, Washington, D. C.

J. Stuart McMaster

Counsel, Bureau of Reclamation,
Salt Lake City, Utah.TO THE COMMISSIONER FOR COLORADO:

Jean S. Breitenstein

Attorney for Colorado Water Conserva-
tion Board, 718 Symes Bldg.,
Denver, Colorado.TO THE COMMISSIONER FOR WYOMING:

Emil C. Gradert

Compact Commissioner,
Fort Bridger, Wyoming.

EXECUTIVE SESSION AT FARMINGTON, NEW MEXICO
SATURDAY, NOVEMBER 2, 1946

The meeting was called to order by Chairman Bashore at 8:00 a.m., and discussion was had off the record.

COM. STONE: Mr. Chairman, I move that the Commission create a Legal Advisory Committee consisting of one member designated by the Commissioner for each compacting state and one designated by the Federal Representative; that Charles A. Carson, the Commissioner for Arizona, be the member for Arizona and the Chairman of the Committee; and that the Legal Advisory Committee be authorized and directed to make studies respecting the necessary clauses of the compact now being negotiated and all legal questions that may be referred to it by the Commission.

COM. WATSON: Second the motion.

THE CHAIRMAN: Any discussion? (No response.)

(Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

THE CHAIRMAN: Com. Stone, will you designate the Legal Adviser for Colorado?

COM. STONE: Jean S. Breitenstein for Colorado.

THE CHAIRMAN: Com. Bishop?

COM. BISHOP: Louis J. O'Marr for Wyoming.

THE CHAIRMAN: Com. Watson?

COM. WATSON: Mr. Chairman, I would like to take this matter under consideration and report at an early date to Mr. Carson, the Chairman of the Legal Advisory Committee, and to the Secretary of the Upper Colorado River Basin Compact Commission the name of the Legal Adviser to the Commissioner for Utah.

THE CHAIRMAN: It is the understanding of the Chair that the Commissioner for New Mexico desires to confer further with his prospective appointee to the Legal Advisory Committee and after so doing will notify the Chairman of the Legal Advisory Committee and the Secretary of the Commission.

The Chairman suggests that Mr. Carson, the Chairman of the Legal Advisory Committee, correspond directly with Mr. Will, the Assistant Chief Counsel of the Bureau of Reclamation, who will see to it that a Legal Adviser of the Federal Representative will participate in such studies.

Is there anything further?

COM. WATSON: Move we adjourn.

THE CHAIRMAN: Do I hear a second?

COM. STONE: Second.

THE CHAIRMAN: Any discussion of the motion? (No response.)

(Thereupon a vote was taken and the motion of Com. Watson carried unanimously.)

(9:40 a.m., November 2, 1946, meeting adjourned to 10:00 a.m., November 2, 1946, at the Masonic Hall, Farmington, New Mexico.)

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Official Record of Meeting No. 3

Session Held

10:00 o'clock a.m.

November 2, 1946

at

Masonic Hall

Farmington

New Mexico

APPEARANCES

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

Membership as listed at Rock
Springs, Wyoming, Session
(Page 1)

Chairman, Acting Secretary, and all Commissioners present except Thomas M. McClure, Commissioner for the State of New Mexico; Commissioner McClure appearing by Fred E. Wilson, Special Assistant Attorney General and Attorney for New Mexico Interstate Stream Commission, Albuquerque, New Mexico.

COLORADO:

Jean S. Breitenstein	Attorney for Colorado Water Conservation Board, 718 Symes Bldg., Denver, Colorado.
D. W. Sexton	Secretary, S. W. Water Conservation District, Durango, Colorado.
J. R. Williams	Deputy State Engineer, Durango, Colorado.
Archie B. Toner	Southwestern Water Conservation District, 1407 South College, Fort Collins, Colorado.

NEW MEXICO:

I. J. Coury	N.M. Interstate Streams Commission, Farmington, N. M.
Ed H. Foster	New Mexico Reclamation Director, Farmington, N. M.
A. J. Neff	Farmington, New Mexico.
Paul B. Palmer	Hammond Project and Navajo Indian Rights, Farmington, N. M.
Wm. P. Longhurst	Hammond Project, Farmington, N. M.
Lui Casazza	Animas Project, Farmington, N. M.
N. H. Knight	Farmington, N. M.
J. R. Cunningham	Farmington, N. M.
Orval Ricketts	Press, Farmington, N. M.
Joe B. Christy	S. C. S., Farmington, N. M.
Mather M. Eakes	LaPlata Conservancy District, Farmington, N. M.
Robert L. Maddox	Natural Gas Producer, Aztec, N. M.
Johnston Jeffries	Attorney, Aztec, N. M.
C. A. Ransom	Retired Real Estate Dealer, Aztec, N. M.
Joe Mangum	Hammond Project, Bloomfield, N. M.
M. L. Faverino	Bloomfield Irrigation District, Bloomfield, N. M.
John C. Bergin	Bloomfield, N. M.
Dave A. Martin	Secretary, Bloomfield Irrigation District, Bloomfield, N. M.
N. W. Strani	La Plata, N. M.
A. H. Greenwood	La Plata, N. M.
John E. Harris, Jr.	La Plata, N. M.
W. Carlos Powell	La Plata Conservancy District, Santa Fe, N. M.
H. F. Thatcher	Farmington Lions Club, Farmington, N. M.

UTAH:

William R. Wallace

Thos. W. Jensen

C. S. Jarvis

Pres., Utah Water Users Ass'n.,
Salt Lake City, Utah.Utah Water Users Ass'n.,
Mt. Pleasant, Utah.C. E. with State Engineer's Office,
Salt Lake City, Utah.WYOMING:

E. C. Gradert

Assistant Compact Commissioner,
Fort Bridger, Wyoming.BUREAU OF RECLAMATION:

J. G. Will

J. R. Riter

N. B. Bennett, Jr.

E. O. Larson

A. A. Batson

A. N. Thompson

J. Stuart McMaster

John J. Hedderman

A. I. Gabardi

F. A. Anesi

R. C. Brown

D. M. Forester

John L. Mutz

Assistant Chief Counsel,
Washington, D. C.Chief, Hydrology Division,
Denver, Colorado.Branch of Project Planning,
Washington, D. C.Regional Director, Region 4,
Salt Lake City, Utah.Acting Regional Director, Region 7,
Denver, Colorado.Assist. Regional Director, Region 5,
Amarillo, Texas.Counsel, Region 4, Salt Lake City, Utah.
Durango, Colorado.

Durango, Colorado.

Durango, Colorado.

Monte Vista, Colorado.

Monte Vista, Colorado.

Albuquerque, N. M.

U. S. GEOLOGICAL SURVEY:

Berkeley Johnson

Santa Fe, N. M.

SESSION AT FARMINGTON, NEW MEXICO
SATURDAY, NOVEMBER 2, 1946

The meeting was called to order by Chairman Bashore at 10:10 a.m., Saturday, November 2, 1946.

THE CHAIRMAN: The meeting will now come to order. It is now ten minutes after ten and we would like to proceed with the work of the Commission.

At the Santa Fe meeting, Meeting No. 2, of the Upper Colorado River Basin Compact Commission, the Commissioners decided that in connection with the next meeting, Meeting No. 3, there should be held a series of field hearings or meetings within the Upper Colorado River Basin States, one meeting to be held in each state. The Commission has held three meetings, one at Rock Springs, one at Grand Junction, one at Price, Utah, and this is the fourth meeting, and so far as the Chairman is aware, it will be the last field meeting to be held by the Commission.

This field meeting is first and last and primarily to give the people that are interested in the development of the Upper Basin an opportunity to have their say, to give the Commission any advice that they may feel should be given and to furnish any information that they think would be valuable. And so if you don't take part in these meetings, it's your own fault; you are afforded the opportunity. Any remarks that you make will be welcomed by the Commission because we are here to learn the wishes of the people. I don't know of any better way to do it than to just go right out in the field and hear what the people have to say.

The Commission is working as expeditiously as possible. This morning the Commission decided to put the lawyers to work. So far it has been all engineers getting data together and the lawyers have had a relatively easy time. But the Commission decided this morning that it would put the legal advisers to work so that no time would be lost in the negotiations in the formulation of the Compact.

Following the procedure that has been followed at the other meetings, the Chairman desires to turn the meeting over to the gentleman who is this morning acting for Commissioner McClure from New Mexico. We now call on Judge Fred E. Wilson to take charge of this meeting. Judge Wilson is better acquainted with you folks than I am, some of you at least, and he will call on you and we hope you will feel free to say whatever you have to say. We don't expect finished orations. Express what you have to say in your own language and it will be welcome. Judge Wilson.

JUDGE FRED E. WILSON: Mr. Chairman, Members of the Upper Colorado River Basin Compact Commission, and gentlemen: At the request of the Chairman of the Commission and also at the request of Mr. McClure, Commissioner from New Mexico, I have agreed to act as chairman of this meeting. As all of you know, I assume, Mr. McClure is in Farmington quite ill in the hospital and can't be here today.

The Chairman has made a very clear statement to you as to the purpose the Commission had in mind in calling these field meetings within the Basin. As he explained to you, the first meeting was held at Rock Springs, Wyoming, last Monday; followed by a meeting at Grand Junction, Colorado, Wednesday; and a meeting at Price, Utah, Thursday; and this is the last of the series the Commission decided to hold in the field.

I think that the people of New Mexico and of San Juan County in particular, appreciate the fact that the Commission decided to hold these

meetings. As stated by the Chairman, the Commission desires to hear first-hand from some of the citizens of New Mexico and San Juan County just what your interests are in the San Juan River, and to make whatever suggestions you may have on your mind as to the solution of the problems of an equitable allocation of the use of the water among the five states.

I am not going to take much time but briefly I want to say that as most of you gentlemen know, our rights to participate in any allocation of the waters of the Colorado River system are based upon the Colorado River Compact which was signed in Santa Fe in 1922. In that Compact there was an allocation made as between the states of the Lower Basin and the states of the Upper Basin.

Roughly, there were 7,500,000 acre feet per annum allocated to the Upper Basin and 7,500,000 acre feet allocated to the Lower Basin with the right of the Lower Basin to appropriate an additional million acre feet later. In other words, they contemplated and understood and believed at the time that there were about 16,000,000 acre feet of water to be dealt with, and that a quantity of water of 7,500,000 acre feet per annum could be divided equitably among the Upper Basin States.

As stated last night, the State of Arizona, although a Lower Basin State, participates in these negotiations because it has an interest in a portion of the Upper Basin along the northern part of the State of Arizona where the San Juan flows out of New Mexico. Under the same circumstances, New Mexico and Utah are both Upper and Lower Basin States. New Mexico has an interest in the allocation made to the Lower Basin on account of the Gila and its tributaries; and Utah on account of the Virgin River.

There are many problems involved in making this allocation--it is no easy matter. But it is a job that must be done and under the leadership of Chairman Bashore an earnest and sincere effort is being made to arrive at a conclusion at the earliest possible time.

Now, of course, New Mexico is vitally interested in whatever allocation may be made. If an allocation is made, this Commission doesn't make it finally. The members of this Commission will come to some conclusion as to their opinion of what a fair and equitable allocation among the four states and Arizona is. They will put that in the form of a compact and it will be submitted to the legislatures of each of the five states, and it will not become effective as an agreement binding upon the states until each legislature has ratified it, the governors have approved it, and Congress has also approved it. So there will be ample time for any people who are interested to inform themselves as to the provisions of any compact or agreement that may be reached and it will be our problem then. If the Commission thinks that they have arrived at an equitable apportionment, the people in New Mexico, in San Juan County, will be informed and you in turn, if satisfied, will have to inform the Legislature. If you are dissatisfied, you will make your objections to it. So it has quite a road to travel.

So far as Mr. McClure is concerned, I am sure his purpose and object has been to join in these negotiations in good faith and expedite them as much as possible. However, he has had in mind that if a permanent compact is made and the division and allocation is made to last in perpetuity, it's a matter we must approach with a great deal of care and thought and consideration and not agree upon until we know all the basic facts. And with that attitude, we are thoroughly willing to cooperate and arrive at a conclusion at the earliest date possible.

Now just another word or two: Most of you have seen the report that has been made by the Bureau of Reclamation on the Colorado River. It has been variously referred to as an inventory of projects or a report or a plan of development. We appreciate very much the splendid work the Bureau has done in making this study of the Colorado River and we appreciate the value of that report. But this Commission itself will not be bound by any suggested allocation of water that is contained in that report although the facts set out in the report will be, I am sure, carefully considered by the Commission. I say that because if a permanent compact is to be negotiated at a very early date, we in New Mexico are entitled, I believe, to consider not only our present uses of water but our potential uses. And so far as the facts in the report the Bureau of Reclamation has put out affect New Mexico, they are incomplete.

I feel that Mr. McClure and I or anybody representing New Mexico could be derelict in his duty if he just agreed to an allocation that didn't fully consider the full potential possibilities for the use of the waters of the Colorado River in the State of New Mexico.

I believe it is unnecessary to go further. As the Chairman said, he wants you gentlemen here to talk and express your own ideas, primarily going to the point of an allocation of the water among the four states. But also if you desire, I am sure the Commission would like to hear any description you may desire to make of the projects you have in your own mind, how you think water can be used in San Juan County and New Mexico, and what our future dreams and ambitions are. And when you have done that, I am sure that we have done all that we can do and we appreciate the opportunity to do that.

Now I would like to introduce Mr. I. J. Coury, who is a member of the New Mexico Interstate Streams Commission, a man who has attended many meetings in the Colorado River Basin States where water problems have been discussed and a man who has always been zealous in advocating and contending for the rights of San Juan County particularly and the rights of the State of New Mexico in general. Mr. Coury, will you take charge of the meeting and call on various individuals whom you have in mind?

MR. I. J. COURY, FARMINGTON, NEW MEXICO: Thank you, Mr. Wilson. Mr. Chairman, Members of the Commission, I guess probably to start this meeting off it may be well to have Mr. Hedderman, the Area Engineer of the Bureau of Reclamation at Durango, briefly give us a report on what his findings have been up to date, and after we hear from him, we will carry it on from there. Mr. Hedderman, will you give us a report on your findings?

MR. JOHN J. HEDDERMAN, BUREAU OF RECLAMATION, DURANGO, COLORADO: Mr. Chairman and Members of the Commission and friends, we have been working quite some time on the various projects in the San Juan Basin, which of course involves New Mexico and Colorado. About April, or the latter part of April, this year, we started surveys on what you folks call the South San Juan Project. We started field surveys from the vicinity of Dulce. That would be a canal line or conduit running toward Cuba, which would service the area south from Bloomfield to Cuba. We have a survey party working in that vicinity. We have one working in the vicinity of Cuba toward the other party.

We also have been classifying the lands south from Bloomfield in the vicinity and we have covered since about the middle of May up to date, about 400 sections or some 250,000 acres of land. We hope to finish that classification of that area by mid-December if the weather holds out. Until such time as we have that work finished and have the canal surveyed, we can't do much more on the project or tell you anything about what may develop.

Now you folks know that we have completed a report on the La Plata units of the Animas-La Plata Project. The La Plata units, as you know, are one in Colorado and one in New Mexico; and that involves, of the first unit, some 3800 acres in New Mexico and about 10,000 acres in Colorado. The Animas-La Plata Project as a whole consists of about seven units totalling some 110,000 acres, of which about half lies in New Mexico and half in Colorado.

We have completed the report on the Hammond Project, which lies up the River here between Farmington and Bloomfield; and that would involve the development of about 3700 acres.

We have been working quite some time on a water supply study of the entire San Juan River Basin. The preliminary report on those studies was completed just prior to October 15th and that was submitted to our Regional Office. Now that report will be the basis of our determining the available water for these several projects that I have mentioned and of course for the surplus waters in this Basin.

The Pine River Project involves some lands in New Mexico on the Pine River along the San Juan River in the vicinity of Arboles. There is not a great acreage in that but it is involved in that project and they are included. The lands in New Mexico are included in our Pine River report.

Also involved in the studies in the Basin is what we call the Dulce-Chama-Navajo Project, and that involves lands in Colorado and New Mexico. There are approximately 15,000 acres in that project of which about 12,000 acres lie in the State of New Mexico. We haven't done any actual field surveys on that project as yet because we had to defer that until such time as we completed this basin water supply study that I just mentioned.

Except for the Shiprock Project, which we have done some preliminary work on, which involved in our studies about 70,000 acres, and I believe now the Indian Service is continuing that investigation, I think that's all the work that we are doing now in this area.

If there are any questions I would be glad to try to answer them.

MR. CORY: Thank you, Mr. Hedderman. Would anyone like to ask Mr. Hedderman any questions? If you have any questions now is the time to ask them. (No response.)

COM. BISHOP: I would like to ask how much water you propose to consume if these projects for New Mexico are completed; how much will be the ultimate consumption for New Mexico? Can you tell me that?

MR. HEDDERMAN: No, we couldn't tell you that. We are investigating these various projects and their potentialities. Of course that will be up to the State of New Mexico to determine or say which projects they wish to have constructed if they are constructed, and of course those various projects will have to fall within the water allocated to the State.

COM. BISHOP: The Commission ought to know something about the needs-

MR. HEDDERMAN: How is that?

COM. BISHOP: The Commission would like to know about the needs of the State. We really haven't very much on New Mexico and the Commission would like to know about the needs for New Mexico in order to be fair in the allocation of the water to New Mexico.

JUDGE WILSON: That is what some of these other gentlemen will tell you, Mr. Bishop. We need all the water we can get. There are so many places to put it.

MR. HEDDERMAN: Now this development to the south of Bloomfield known as the South San Juan Project, that project would be limited by available water, not by available lands.

MR. J. R. RITER, BUREAU OF RECLAMATION, DENVER, COLORADO: Mr. Chairman, I wonder if Mr. Bishop's question couldn't be answered by referring to the Colorado River Basin Report of the Bureau which shows for New Mexico an estimated consumption in the Basin of 450,000 acre feet.

MR. WILLIAM R. WALLACE, SALT LAKE CITY, UTAH: Does that include the Indians?

MR. RITER: That includes the Indians.

JUDGE WILSON: Does that include the possible transmountain diversion?

MR. RITER: That is the water that would be consumed in the Basin through the development of the potential projects as listed in the Basin Report.

JUDGE WILSON: But you don't purport to say, Mr. Riter, that there are not other potential possibilities for use of water in New Mexico--

MR. RITER: No.

JUDGE WILSON: --in addition to the ones the Bureau has already reported on?

MR. RITER: Mr. Wilson, I think it would be foolish for me to say there are not other possibilities. The history of development in the Colorado River Basin indicates every time we take a look at it we raise our sights. You will recall back in 1922 we had a report then which indicated the Upper Basin could not use consumptively anywhere near 7,500,000 acre feet. Now the version as of 1946 indicates the Upper Basin could use if it had the water, 9,100,000 acre feet.

JUDGE WILSON: But the point I am making is that under your present tests of feasibility, these are all the projects you have studied. But looking toward the future, there may be a change in the feasibility formula and there might be other land that water could be taken to which we think now would be unfeasible. Perhaps the future might disclose that ten, twenty, fifty years from now, other projects might be feasible.

In other words, there is a vast development here in this area of natural gas. This may be one of the greatest gas producing areas in the world. It is conceivable that with a great deal of cheap gas we might put in pumping projects that would make water available which may be absolutely unfeasible now.

Those are things I want to let the Commission know, that we are not limiting ourselves to the amount of water that has been mentioned in the Bureau of Reclamation Report.

COM. BISHOP: According to the parties that have been studying that, Fred, it takes more water than is available now. It looks like we pretty near have to stay within the ones already studied in the allocation or we aren't going to get any place.

JUDGE WILSON: That is true, but we want all the possibilities considered, and then the state itself will determine where the water is to be used. I imagine a good many of the states have projects mentioned, described, and inventoried where they know they are not going to build them all.

COM. BISHOP: We have a million acres in Wyoming we would like to irrigate. We realize we don't have enough water.

MR. COURY: I don't know what chart Mr. Riter referred to-- 450,000 acre feet. He is either looking at the wrong chart or all the projects are not listed because on the inventoried projects we have 70,000 at Shiprock; 25,500 on the Monument Rock; 12,000 in the McDermott Glade; outside of the South San Juan, the San Juan-Chama diversion; outside of the 50,000 acres in irrigation now and the supplemental water for the present land and what additional land can be placed under irrigation; and you total that acreage up and multiply by four acre feet to the acre and you will exceed a million acre feet of water. So I think the chart Mr. Riter is looking at--

MR. E. O. LARSON, BUREAU OF RECLAMATION, SALT LAKE CITY, UTAH: I think the question was asked how much water could the State of New Mexico use and Mr. Riter came back and mentioned 450,000 acre feet.

MR. COURY: That isn't diversion depletions.

MR. RITER: It may be I misunderstood the question. If I understood the question properly it was: How much will the depletion be for the projects Mr. Hedderman has described? I referred to page 169 of the Report which refers to in-basin depletions only 450,000 acre feet. That doesn't show what the potential transmountain diversion will be. That is a problem to be studied, Mr. Coury.

And there is another thing to bear in mind also: You take the South San Juan and the San Juan-Chama; you can't use water on both projects, they are competitive. In other words, they both derive the source from the same stream. You either turn it in this way and use it on the South San Juan or you have the alternative of taking it across the Divide and using it in the San Juan-Chama. Those two projects are directly competitive because they both derive the water supply from the same source.

JUDGE WILSON: May the record show that while those two projects are competitive at the present time in that the water comes from the same source and it can't be used on both projects, still there is a possibility that if the water should be taken through the transmountain diversion this other land might be watered in the future from some other source if the water were available.

MR. RITER: If water were available, yes.

THE CHAIRMAN: I don't know whether your question has been answered to your satisfaction or not. There must be a distinction made between the consumption of water and water applied. Your calculations were made, I think, on the basis of how much you would have to apply to that and Mr. Riter attempted to say that what he was talking about was the depletion after the water had been applied. In other words, you might be required to apply five acre feet to an acre of land but the depletion would be maybe as low as a foot and a half or even lower, that is, the consumptive use.

And I hope you will all bear in mind the difference between the amount of water that you are applying and the amount of water you are consuming in certain areas.

COM. BISHOP: Mr. Chairman, my question was to get at what was the ultimate consumptive use by the whole set-up. I don't care about the details. That is what I have in mind.

MR. RITER: For the benefit of Tom McClure I would like to put one statement in the record. I know Mr. McClure has taken issue with our unit rates of depletion. I know if he were here he would say we have underestimated it and want that matter reviewed. If you will permit me I would like to put that in the record for Mr. McClure.

MR. CORY: I believe that we have with us a man who has given one of the potential projects in San Juan Basin quite a bit of thought and spent quite a lot of time on it, Mr. Paul B. Palmer. Will you give us a few words on the Hammond Project in San Juan County?

MR. PAUL B. PALMER, FARMINGTON, NEW MEXICO: Mr. Chairman, Commissioners, and gentlemen: It has been a good many years since I have had this project you might say "under my thumb" and the war has intervened and a lot of water has gone down this river since. The Hammond Project Mr. Hedderman touched on and perhaps has been mentioned too before I came in. I don't know what went on before but briefly, the old Hammond Project was settled prior to 1900 by members of the L. D. S. Church. It was called the colonization program, and from various reasons in which you are not interested, perhaps, the project was ultimately abandoned.

However, before it was abandoned it was one of the most progressive little communities in the county. And there were, so to speak, good engineering reasons why it was a failure. Those engineering problems would not be looked upon nowadays as so important and would not hold us back probably as they did fifty years ago.

The acreage estimates that we did have on the Hammond Project are considerably higher than Mr. Hedderman gave you but I take it he classes it as A-1 land. As a matter of fact, there is probably double that amount of land that we simple country people know is good land because while it may go back through seepage or something of that type, our dairymen find in this country you can grow clover and some of the finest production on this so-called no good land. That has been our experience particularly in the past few years, the land that the Government doesn't think is worth a dollar an acre, we find some of our highest production is made from it by turning it into crops that will be produced on lands that are full of salt and alkalis.

However, the Hammond Project is not entirely dead and there are a few people living over there. Some of them are pumping on it and they are trying to revive the thing and have been for some years. At one time, in fact if the war had not intervened, it is very probable that the Hammond Project would have been fully underway today, but when that came along and Reclamation took it over for analysis, the other project was given up.

Our office did secure land applications on the Hammond and at one time we had applications there that if they had all been approved and accepted would have been enough to settle fifteen or twenty thousand acres of land. We still have all of those applications on file. I don't know how many of them will still be interested.

I don't know exactly what the present acre cost of the new surveys show, but briefly speaking, the Hammond Project covers land that is very similar to what you see here in our valley. It has a nice slope. It is on the south side of the San Juan. It is a little bit higher than Farmington in altitude. The west end of it is approximately three and a half or four miles above

here just across the San Juan River and it extends up from there a distance of approximately twenty miles.

As I recall, the canal would be 25 to 30 miles in length depending on the location of it and how far down they came and where they took out their heading. The land has a gentle slope in most instances. A good deal of it is covered with sagebrush and we know that is an indication of great fertility in our western area. This land at one time had some of the best producing orchards that the county has ever seen. Some of the finest apples were raised up there 35 years ago that the county has ever seen. In other words, the land is good, the water is there, and it is potentially a very fine project and should be put through.

The Indian Department at one time was very desirous of buying this land and settling the Navajo Indians upon it. The white settlers felt that if they did so it would in effect divide the county completely and leave to the white settlers only that land north of the Animas and San Juan Rivers and all south of there would become permanently Indian land. Consequently that design was blocked in 1935 and since that time the Indian Department has not become interested again in buying it for the Indians so far as I know, not that they wouldn't like to but they did give it up.

I don't know that anything more is wanted on that Hammond Project. I think it will suffice to say that the land is fertile, the slope is good, the climate is as good as this is or similar and there can be no question about the feasibility of the projects in my opinion. However, while I am here, with the permission of the Chairman I would like to mention another matter that I am very vitally concerned with and I think all of us are or at least we should be.

Next to my opinion of politics, the Navajo Indian situation in the State of New Mexico and Arizona, and to some extent in Utah and Colorado, is probably the biggest of our national disgraces. We have approximately 60,000 Navajo Indians who used to claim the area where we white people now live and have our homes. They used to live and roam through about 40,000,000 of these acres, and when our fathers came out here they saw fit to push them back as we have been doing for centuries; and we gave them or let them--tolerated perhaps would be better--on land on which it is very difficult for them to make a living. As I say, they once roamed on this area clear over into Colorado, clear over to Albuquerque, clear west to Flagstaff, and north to the southern most and eastern most part of Utah. And the land or the major portion of where this water runoff goes through was all Navajo Indian land.

Today those are the most backward in a way of the peoples of the earth. About 90 percent of them are illiterate. The Government has presumed to educate them for 75 years and yet approximately 90 percent of them can't speak the English language or read and write. It is deplorable to see the condition in which most of them live. We get big headlines in our newspapers about troubles in China and Tibet and faraway lands, but if these farmers would come into the Navajo country they would find conditions that are just as amazing and certainly more appalling.

The point I want to make is that these people at least morally have a very high claim upon the waters of the San Juan, Animas, and La Plata Rivers, and therefore the waters of the Colorado. It is true they haven't been officially used, a great deal of it. It is also true that where they have had ditches built, the Navajo has become a good farmer as he has become a good stockman. Some of the finest wheat, melons, potatoes, and all of the commodities that we raise in this area are raised a little bit west of us by the Navajo Indians on the Navajo Reservation. Many of them become

adept farmers and are, strange enough, making a living on ten acres of land where our white men would starve to death. If they had had larger acreages they would farm it comparatively speaking to that much better advantage.

Now these Navajo Indians have approximately 16,000,000 acres south and west of here in the four states. How much of that could be irrigated I don't know, but the Bureau of Reclamation has some figures on that and so does the Indian Department. For years I have been and still am a critic of the administration of Indian affairs. It has been my observation that the Indian Bureau as a whole--not speaking as individuals but as a whole--have had in mind the protection of their jobs rather than the welfare of the Navajos. That is true in a lot of other bureaus but particularly of the Indian Bureau. And consequently, these white men have been diligent in seeing that they got a job tomorrow rather than that the Navajo had something to live on tomorrow.

Therefore, as a private citizen, however representing a large group if not the largest group of Navajo Indians in a private capacity, I feel perfectly at liberty to speak for them because I do represent the largest Navajo organization that was ever organized and it is in existence and operating in a way very successfully. These Navajo Indians have few spokesmen of their own. They have few colleagues of their own. They have few leaders of their own, and I do presume to speak for them in that capacity because they are not very able to take that burden upon themselves, perhaps I am not either. But I would like to put it into the record that there is claim that the United States Government, the people of these states whether they are white or Indian, should give their moral support to these Indian people and that water should be saved for them.

They have as fine land as we have if it has the water. As I said, they were given the worst of the land because our forefathers considered that water could not be gotten to it and it couldn't have been under the old system; but with modern conveniences, modern machinery, it can be gotten to the Indian land, especially with storage dams. And we can rehabilitate the largest tribe of Indians that is in existence in America today, the Navajo tribe.

They are the largest tribe. They are the most rapidly increasing tribe, and yet they, as I said, are the most backward and most illiterate. However, up to 1930 they were the only self-supporting Indian tribe in the United States, and that has been one result of their great independence and also their ability to change their condition from that of a nomad to a very good stockman and from a stockman to a farmer, which they have been able to do and adapt themselves in a few years.

So I think that we should consider their claims that they have thousands of acres of ground out there and that there are fifty or sixty thousand of those people today, and ten years at the same rate of progress there will be at least 75,000 of them, and as I say there are 16,000,000 acres of those lands and a good many of those acres of land can be irrigated and cultivated successfully. A good deal of that lies in the State of Arizona and about half or a little more of that population is in the State of Arizona. I care not whether that allocation is made in New Mexico or Arizona or both. Some of it I think can be made in Colorado and Utah for their benefit also as they reside in both of those states.

I think we should look at their problem more from the standpoint of our group of states rather than to divide and take away from just one or two. For instance, if New Mexico is entitled to so many acre feet of water, I think the claims of the Navajo Indians should possibly be in excess of that, and the same thing is true of Arizona and the other states where these people reside, because they in a way are still under the Federal Government and they should be looked upon as a joint problem of at least the four states where they live.

Now as surely as that is done and these people are given a means of livelihood they will be amalgamated into our civilization and assimilated and they will take their place shoulder to shoulder with our white people. And you will find they are just as good citizens as any of us when they have the opportunity presented to them. We have declared them to be citizens of the United States by the Act of Congress of 1924. On the one hand we give them liberty and all the rights and privileges of citizenship and on the other hand we snatch the rights all away and leave them the obligations of citizenship. Approximately 3500 of their men were in the services of their country and they don't vote.

There are a lot of things. There are a lot of things I could tell you about why the Navajo Indian situation is a national disgrace. It is also a disgrace to the State of New Mexico and to the State of Arizona in particular. But something should be done by this body to recognize the rights of these people and to do something about it. I am not telling you what to do but I think something should be done and we should recognize that these people have some rights because they were here a long time before we were here. Thank you. (Applause.)

JUDGE WILSON: I would like to call on Mr. Orval Ricketts to make a statement. I am not trying to confine you. You may make a general statement about the situation as you see it, Mr. Ricketts.

MR. ORVAL RICKETTS, FARMINGTON, NEW MEXICO: Mr. Chairman, I got here late. I don't know where you have gone up to here. You might confine me to something definite.

JUDGE WILSON: Just talk about San Juan County and New Mexico and your water aspirations and your need for water.

MR. RICKETTS: As a newspaper man, I am not accustomed to speaking extemporaneously on a subject as vast as this; but I could perhaps give you some idea that would probably be coherent or backed up on statistics just on a moment's notice.

I have lived in the county going on forty years now. Most of that time I have been engaged in the newspaper business. As I related at the meeting last evening, my first impression of the value of irrigation and the possibilities of irrigation development came as a boy who was raised in the Mississippi River Valley where irrigation, of course, was unknown. We came out here and I first worked on a ranch here, and of course the talk was of the productive value of our soil in this country where water could be beneficially applied. And as I learned later, the first ditches in this country were taken out by squatters.

At one time this was Indian Reservation, and back I believe on July 4, 1876, by Congressional Act, the land was opened for homesteading. However at that time there had been no surveys made and so the original settlers merely came in and took up what they called squatters' rights. They knew they would eventually be entitled to 160 acres and they surveyed in their crude way their small farmsteads along the lower valleys and the beginning of your irrigation came from individual ditches.

A man would take up a lower bench along the valley and go a mile or two above and attempt to build his own ditch, and put a few acres under cultivation. Then as time went on neighbors below would extend the ditch as more squatters would come along. I believe it was not until 1880, four years after it was opened, that the first reconnaissance survey was made by the United States official land department. So these ditches have sprung up and that was first irrigating the lower levels and then they would take on

ditches that were longer in length to irrigate the higher level as I think in our Animas Valley here we have three, possibly four, benches; and as time would go on, these ditches have been built to cover the higher levels.

As you heard Mr. Palmer state, the value of our land and productive ability are excellent. But back in that early day, the general dream was that south of the San Juan River there was a great area of land that was subject to reclamation by water from the San Juan River. As I read to you last evening, this was dramatized and brought to early day attention, about the turn of the century, by a young engineer by the name of Mr. Jay Turley, who had been employed by the Territory of New Mexico to do some engineering work for it. It was a matter of several years' work--he was grub-staked as he went--and then when he presented his bill for his full services, the Territory found it did not have money sufficient to pay their engineer so they made him a proposition that they would offer him the use of the waters of the San Juan River in payment for his services. He finally accepted that proposition.

He didn't question the right of the Territory to so allocate the waters of the stream, took it for granted that that was within their right. So he spent then a number of years, in fact the greater part of his life after that, attempting to organize land companies, private land companies--that was in the days before the Reclamation Bureau--to place this land under cultivation, thereby hoping to recover financially his debt from the Territory for the services rendered.

The early day news stories about that as we find in our old files envisions an empire, such as he claimed, a million acres that he thought could be beneficially irrigated, and I think he had not one but several eastern groups interested in financing his project, but for one reason or another they fell down at the last moment.

I was interested last evening in the discussion of the matter by Fred Wilson of our State, attorney for the Interstate Streams Commission, whose law partner, the late Richard Hanna, was one of the men who had assisted Turley in his project. It was recounted at one time that he was offered I think a certain sum per acre for his rights in this water and in the project that would have netted him a very handsom profit, but he thought if it was worth that much to those fellows it was worth twice that much for future use and so he turned that down.

As I understand it, what I have to say here is more in the nature of the dreams and aspirations of our development rather than the engineering details which the Reclamation Bureau's duty is to take care of so ably. This is kind of a sketchy background.

Mr. Turley's estimate of a million acres was evidently not made by a minute survey but wholesale, I imagine, by looking at the map and taking in the area which he proposed to irrigate and including all that land within that area as being irrigable. Under our present Reclamation Bureau survey which was started this summer, a careful study is being made of these lands. It seems that there are several possible levels to be considered and each higher level entails a greater cost, of course. And so they are making this study as will be a matter of record, and then we will have some accurate information.

At this time I believe we are unable to say that we would ask this new commission for water sufficient to irrigate a stated number of acres because we are not familiar with what is possible or what is practical or what is feasible. That is, as we feel, purely an engineering detail. We don't wish to come to you and say we would like to have 500,000 acres irrigated until such time that we know there are that number of acres that could be beneficially irrigated and would be an economic project. So we have gone a long ways from

Turley's dream of a million acres to the present day.

We wish to be reasonable. We know there is only this 7,500,000 acre feet to be divided among the four Upper States. As yet we are not acquainted with the means or methods by which this will be divided. I don't think that we are going to ask for any lion's share of this water. But when our surveys are completed and we can sit around a table and say we have so many acres here that can be reclaimed beneficially, we should like that of course to be considered.

We should touch probably a little on the Indian situation. Mr. Palmer has gone into the Indian situation as a whole; I should like to touch on the Indian situation as it applies merely to San Juan County.

As you know, roughly speaking there are 18,000 inhabitants of our county. Practically half of those are Navajo Indians. Now we look upon the Navajo Indian not necessarily as a problem, not necessarily as a ward of the Government. But to us the Navajo is a friend and a neighbor.

We have been living among Navajos these many years and Mr. Palmer has told you of their economic condition and he is correct in what he has stated. They are an underprivileged people. In the few projects in the county the Government has prepared for them they have proved to be very excellent farmers, those who care to. Of course they are fundamentally a stock-raising people and even with the small farms they like to raise some livestock, even on these small areas. But we look upon the Navajo as a potential farmer and as a neighbor. We also look upon the Navajo as a fellow citizen.

In discussing this South San Juan Project, we realize that any great project over there would probably be at least half within Navajo Reservations, in Navajo lands. That question has come up in higher circles. You men who have attended water meetings have probably heard that there was some disposition of saying the Navajo was not to be considered in reclamation; but to we people who are his neighbor--as I said both friend and neighbor and a fellow citizen--he should be considered equally in reclamation projects with his white brother.

So in a county where half of our population is Navajo we feel that anything that can benefit his economic status will benefit the entire community. So we have that friendly feeling and that should be a matter of record. And in discussing this south side project, in the future when you come to grips with it from your engineers' reports, I should like to present at least one community sentiment, that the Navajo be considered not as a report, not as a paper proposition, but as a part of the whole scheme. He is a resident here along with the rest of us and whatever will help him will help us and we want no line of demarcation drawn between what benefits the Navajo and what benefits the white man. I wouldn't say that is possibly the prevailing sentiment, it is a strong sentiment, and I think the day will come when it will be the prevailing sentiment.

The Indian Department through the Bureau of Reclamation has certain programs, and I take it, Mr. Wilson, we will hear from the Indian Bureau in this hearing?

JUDGE WILSON: I had hoped some of them would be here.

MR. RICKETTS: --and they will tell you of the 70,000 acres that are now outlined as possible irrigation on the Navajo and an additional 25,000 north of the South San Juan that will benefit your Navajo people. I want you men to feel in the final discussion and the final allocation that

we wish this would be handled with the projects beneficial to the human beings who live in this section regardless of their color or race.

I would like to call your attention to another possibility in speaking of reclamation on either side of the San Juan River. A week ago yesterday the Southern Union Production Company on Parker Dome, which is just this side of the Colorado State Line about fifteen miles northwest of Farmington, brought in the fourth deep testing well. It was not the largest brought in; the largest was 120,000,000 cubic feet daily production. This well proved to be 40,000,000 cubic feet daily production. But the interesting part is it proved a third and as yet unknown producing sand. They have 14 producing wells in the shell sands but they have these four deep test wells and the officials made this statement publicly this week that they have changed their position from that of being worried if there would be gas production enough to supply the State of New Mexico, which has worried them the last fifteen years, to a point now where they are looking for a market for gas, and they feel there is a great unexplored gas field in this region.

That means if we are going to have a surplus of gas, gas is economical for pumping purposes and instead of building long canals it may be the reclamation engineers will find that many areas heretofore considered not feasible for reclamation can be economically furnished with water through pumping systems. That is something for the future. But the point I am trying to bring out is that in any allocation of water at this time I doubt whether we of this county would feel like signing away in perpetuity any water rights at the immediate time because there are so many unknown factors and so many future potential factors involved in our consideration of this water problem.

I feel a little bit at loss here to know how to proceed. I don't want to take in the whole territory here because we have worked with the Bureau of Reclamation at Durango and they have a number of projects which have been completed, that is, the preliminary surveys have been completed, and they of course should go into this record.

But I might close by saying that we of this section, while we possibly have more potential lands than there will be water available, wish in the final analysis to abide by the reports of the Reclamation Bureau engineers, in whom we have every confidence, and when they have made their reports complete and we have access to them, we are willing to sit around a table with our neighbors in Colorado and the other Basin States and to abide by any reasonable decision that these men can arrive at. But that must be done on the basis of intelligent knowledge and not merely based on the dreams we have had in these past many years.

COM. WATSON: May I ask one question? What is the depth of both the shallow and deep production?

MR. RICKETTS: The shallow is in the shell sands with a thousand and fourteen to sixteen to two thousand feet--this varies somewhat; and the deep tests that were brought in were this third sand, that they brought in Friday. They went through, of course, three sands in this deep test well, which was down to 9400 feet but they went back and cut it off to 8600 which was where this third producing sand is now being developed.

MR. A. J. NEFF, FARMINGTON, NEW MEXICO: I would like to have Mr. Turley's statement read stating the reason he didn't go ahead with his proposition here, if I could get somebody to read it.

MR. COURY: It would be quite lengthy to read.

MR. NEFF: We have been listening to a lot of lengthy discussions

here. I would like to have that read here.

MR. CORY: We would like to have it read for you before the day is through but we have a program set and we will try to get to it this afternoon if we can.

MR. NEFF: I would like to make a statement on this Colorado and New Mexico Compact. If I am not out of order I would like to make a statement here about how this compact was brought out, how it was brought before the legislatures and the governors of the states.

In 1906 I bought a place on the La Plata and settled there. At that time we had the first rights, all the water in the La Plata River. All north of the Line there in Colorado was Indian land and hadn't been thrown open for settlement. About the time I came here, I think, just a year before, they threw that land open to settlement, that reservation. Well, the settlers took up that land and went to using the water.

Now the first two years I was here they hadn't taken any of that water, Colorado hadn't. I cut 600, over 600 tons of hay for two years on my place and had the first rights to the water. It was allocated according to priority in New Mexico.

Well, they commenced to taking all the water. We objected and demanded that we had a right to that water, first right to it, but they paid no attention. And they kept taking our water, taking up land and taking our water until 1918 we didn't get a drop of water on my place where in 1906 I cut 600, over 600 tons of hay over the place. In 1918 we didn't get a drop of water out of the River. I cut four tons and a half of hay and that's all I got off my place and the reason I got that there came a rain in July and the water settled in the low places and I got to cut that much hay.

We knew we had to do something or get off the River. So we held a meeting and a committee was appointed and we would go to Durango and see a lawyer there and see what we could do about it. Mr. Hatfield and Toy and myself were appointed to that committee. We went up to Durango and we went in to Mr. Perkins' office. He helped adjudicate the water in New Mexico about 1901. We went in there to see him and told him what we wanted. He took the statute books of Colorado and turned to a place there that said all the water that originated in the State of Colorado belongs to the state. He turned over a few pages and it said water cannot be impounded in the State of Colorado to be used outside of the state. Those laws are still on the statute books of Colorado as far as I know--never heard of them being repealed.

Well, we knew we didn't have money enough to fight the State of Colorado. We came down and appointed a man to go over to Santa Fe and see if we couldn't get help from the State of New Mexico to fight that proposition. We appointed Mr. Betinas. He went over to Santa Fe and stated the case to them and the legislature voted \$10,000 and the Governor authorized Stephen P. Davis to take our case to the United States Courts. Well, it took him a little time to collect data, you know, to start a suit on, and about the time that he got ready to start suit, the Chambers of Commerce of Aztec and Farmington began to holler, "Compromise! Compromise!"

They took that out of our hands and they compromised it and we couldn't do a thing up there on the La Plata. We didn't want to compromise it. We had the right to that water. But they compromised it, the two Chambers of Commerce of Aztec and Farmington. They didn't have a bit of interest in that La Plata but they engineered that. They had more influence in Santa Fe and they got that compromise and we got this compact and they

have been trying ever since to break that compact and beat us out of what little water we got under the compact.

Now as I understand it they recognized that Colorado had some right there to that water. They couldn't compromise anything unless they recognized that Colorado had some interest in that water. They have been trying now to build a reservoir up there and whenever they do they will break this compact. When they got the compact, the people up there stopped it when they sent our water down here. We sent a man to Santa Fe to find out what they would do about it, they wouldn't turn it down. The Governor appointed a committee, made an appropriation and appointed a committee and went up to Denver to see what Colorado was going to do about that compact. They went up and they told them they didn't--

JUDGE WILSON: Mr. Neff, pardon me just a moment, please. This is very interesting and we want everybody to have an opportunity to say anything they want to say, but this is just a little bit off the point that the Commission desires to hear information on. It is very interesting and we would be very glad to let you talk later in the day. There are a few men that have to talk this morning.

MR. NEFF: I don't want to take up any of your time. I want to state the position of us people up there on the La Plata on this reclamation business.

JUDGE WILSON: We will be glad to have you state it.

MR. CORY: I would like to have a few words stated by the man who has given a good many years of his life to water problems in San Juan County, one of the main factors who began the proceedings for the adjudication of water in San Juan County. He followed this very closely and I would like to hear a few remarks from Mr. Ed Foster, President of the San Juan Reclamation Association.

MR. ED H. FOSTER, FARMINGTON, NEW MEXICO: Chairman Bashore, Members of the Commission and their assistants: I have been, I think, in five different meetings with you folks and I know it is very tiresome, very boring, and it's a hard thing for you to do. You men put in a lot of hard work and I am not going to bore you with a long talk. But I am going to go in as near as I can to the starting, as you got some of that that has gone on through the different men that have talked already, and just state to you the beginning of the irrigation here, bring it up pretty much to the present time. But I would like to state for the information of those folks within our county who are here to listen and get information--that is what we have been primarily interested in and the reason for myself and others of the county going to your annual meetings and getting informed.

I find that that is the only way that these problems both interstate and national can be solved. We mustn't look at these from a selfish standpoint. And I would like to say to these men of the county that I have sat in the meeting of five different annual reclamation meetings where everyone of these faces within this Commission as well as others that are sitting amongst you have attended. And I find clear from your Government employees on down to members of your Reclamation Association those men are vitally interested in solving these water and land problems on a long drawn out, farsighted plan.

You Government men, Mr. Hedderman, Mr. Larson, of our district here, have been very faithful. They are conscientious. These men on your Commission are the same. Everyone of them I find are men who know their business. They have made a study of it throughout their lifetime and in my opinion that is the only way to get the positive facts before you folks, in the form of surveys and records. When we have those I don't think you will find anyone any

better to get along with in those divisions than San Juan County.

And I want to give our county the benefit of knowing these men. I would like to meet them personally. You will find them all mighty fine people and I found this that I would like to state also along this line. This doesn't divide any water nor does it divide any land nor does it put any water on it but it does give you an idea in my opinion what we should have, and I know we will all appreciate that we have got men on here that we have got faith in, men who we have a great leaning toward getting our problems properly settled. They don't do as we do in a great many cases because the ordinary layman cannot do engineering work. He cannot do attorney work. If you folks would hear these folks sometimes, the attorneys and the engineers seem to differ a little; but I notice when they get together there is harmony amongst them. They try to solve those problems.

Another thing I have noticed about them, we all like to get out in politics. Right now it is a little bad, but in all my experience I have never heard one word of a political nature expressed by those men. They do not know state lines. Their surveys and conditions as they find them are just as they are and not according to one state or another. I must say that about our friend, Mr. Hedderman, who is the one probably closest, and Mr. Nielsen, outside of our State Engineer's office, that I have talked to them repeatedly and in no case can anyone as far as I have been in their company say that they have ever mentioned anything regarding politics in the state. They take it as they find it.

And we can rest assured that when these reports and your compact is set up by these men, it will be I am satisfied a very impartial one, not a short-time set-up--it will be a long-time set-up, and as far as trying to tell them what they must do, I don't think we should do that. We have got our projects. We are going to have them surveyed. We are going to have reports on them and I am glad to report--I don't know right now just who said it but it was said officially that instead of it being sometime in the fall perhaps of 1947 the earliest time that these reports could be submitted, I was informed last night that they were in hopes of having these reports finished by the middle of December of 1946, which is just good news to us.

We are assured that with these men taking the evidence as they will of the four states, the five states--excuse me, Mr. Arizona--those reports will be in and we will be able to get all of our projects into the report before there is any final decision made on allocations of water, perhaps divisions of water to the five states. As to our projects, I will quit and let these men go.

But I would like to say back in '77, as has been told you, the first settlers came into this district and along from that time on until the '80's I have been told that these men started irrigation. They found the lower lands of course easily watered by ditch. They were men who came in here and had to succeed by the sweat of their brow. They found the same lands on the bottoms that you will find today on your mesas. Of course all cheaper projects at the present time are irrigated. Those men worked diligently from year to year and up until sometime in the 1900's they were still building ditches, putting more land under cultivation. At that time we never thought anything about a shortage of water, division of water, or anything of the kind, but they have gone ahead and those lands are valuable lands.

We have created a neighborhood here that we feel proud of. We have a county as well as our adjoining state--I am not going to bar them--we have a neighborhood here that I believe is as friendly and as cooperative, and one that wants to live and let live. As you heard them speak, the Indians and the Mexicans. They can possibly be taken care of but we still have

more land, we have more projects. Most of those projects have been brought out and I will not dwell on them because that is an engineer and attorney feat and those reports will be properly brought to us and I see no reason for taking up your time on that.

But I would like to merely dwell in concluding on the fact of our trying to get those reports, then getting together and making our decisions. There isn't any question somebody has got to drop--in fact all--some projects. When those are made, I would like to see them go right on as they have and allow us to go into those meetings, set up the projects which we believe are the most worthy, and give you our ideas of setting up the program that will finally be followed and no doubt to the satisfaction of this county.

On the diversion, I am satisfied it has got to be in the picture. There are certain things which have brought that into the picture very forcibly and I think when the engineering report is brought in it will be brought out. San Juan County and Colorado are interested. It will be brought out through them just what those conditions are.

As far as our wants are concerned, from all the meetings I have attended I am satisfied the Reclamation people feel that first you must take care of your immediate neighborhood, your immediate settlements. There is no inclination on the part of these engineers nor these commissions to try to upset a neighborhood. I found that out, that it isn't their intention to try to close a settlement that has been set up for years past. It is to help out and give that settlement a right to go ahead and state their cases as they see them. I feel that we have nothing to fear as far as we are concerned when we have projects that are feasible and projects that are in advance of others, or even on similar conditions. I feel that your Commission would study and weigh the situation very closely and probably bend over to give you your present projects in the condition they are now and extend them and build them up.

I think that is the intention of all of their reports, to make the studies so there is no injustice done to anyone. At present that will be all I have to say and I certainly thank you folks. (Applause.)

MR. CORY: At this time I would like to have an expression from Judge Mather Eakes.

MR. MATHER M. EAKES: Mr. Chairman, gentlemen, I shall detain you for just a very few minutes. I have not become closely acquainted or deeply informed about the question of water or water rights and water diversion, conservation or the reclamation projects that are before this group. Consequently it is not possible for me to say things that would be particularly informative.

I was called upon professionally not very long ago to organize and incorporate the La Plata Conservancy District. That was the topic really that I understood was assigned to me this morning and a very simple statement covers that. The La Plata Conservancy District has been incorporated and organized and it incorporates a potentiality of some ten to twelve thousand acres; that is, of course, irrigable land. Most of it is land that has been irrigated in the past. At the present time there are some 4800 acres under irrigation or there were at the time of the formation of this compact with Colorado. That compact from my information, the use, restricts us to 3800 acre feet.

Now that about covers the information with reference to that organization. It was incorporated not to do any particular thing at the present time. As I understand it the directors of that organization do not intend to take any positive action at this time. But it was primarily the placing of a group of people in that splendid farming and production area of the La Plata River Valley

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in New Mexico in a position to meet contingencies as they might arise, and that organization is now legally in a position to contract with the United States Government regarding the useage of water if the Government should at any time construct the reservoir that has been contemplated and spoken about on the La Plata River and crossing the Line into Colorado.

I might state that it is not the purpose of this organization to abrogate or attempt to abrogate in the future the compact that exists. It is as I understand it the purpose of this organization to maintain that compact and the rights that now are obtained for them under that compact. If any effort is made or any development is projected that would in any way interfere with the operation of that compact, this organization is in a position to resist and I believe successfully such efforts that may be made.

Now having spoken of that let me say that generally the purpose of the people of San Juan Basin and New Mexico so far as I understand it is to conserve what they have and to conserve a sufficient quantity of water from these streams to enable them to make such development in the future as may be feasible. Hypothecating what I said in the statement that I made in the beginning that my information is not very extensive, I do think that as a citizen and an observer there is enough reclaimable land in the Valley of the San Juan River at the present time to use most of the water of that stream. It is not necessary for me then to enlarge on the statements that have been made by Mr. Palmer in his discussion here this morning and others and the statement that Mr. Foster has just made that there are projects all throughout and within the reach of irrigation from these streams that would take all the water that can be spared from it.

I am not an engineer and I know very little about engineering. I think I do know that engineering is not an exact science, especially when it comes to dealing with water and water rights any more than medical science is an exact science, any more than law is an exact science. We are dealing with things that are necessarily relevant in their nature and character.

Personally I am convinced that the waters of the San Juan Basin can be used in the San Juan Basin and should be so used. I am not in any sense disposed to fail to cooperate in every constructive move that is made for the development in any of this area by every other area that can use its own resources. I am deeply prejudiced--and I use that word "prejudice" advisedly even if it is a confession--I am deeply prejudiced against any move to take the water of one watershed into the realm of another watershed. I do not believe that there is a watershed area anywhere in the country where the water cannot be used within that watershed if it is properly developed--I mean, of course, a country where there are irrigable lands. There are some sections where that does not exist. But we in this area do not wish and I think we will not sign away our rights to the waters of these rivers unless and until we know that those waters cannot be beneficially used by reclamation projects and by every feasible method of development within that area and within that watershed.

We desire to have a backlog of resource for future development. This is a new country. I use that word "new" advisedly. It is true there have been settlers here for a long time but it has been unfortunately true that their ability and their resources for developing these lands has been limited. It is not sufficient to say, "We want to give you all the water you now use." The waters that are now being used are inadequate for the future. It is not sufficient to say, "After we have given you the water that you are now using we want to take the residue of those waters across the mountains into another area that needs it." We want to know and we would insist on knowing just exactly where we are at before we would consent to those things.

Another thing I wish to mention is this: You dry up the riverbed of these rivers and in my opinion you do an irreparable damage even to that that is now in use. "Oh," you say, "your ditches will be filled; we will give you the water you need for your ditches." Okay. But I still say when you dry up the riverbed you are tending to dry up the valley that is watered by those ditches and ultimately you tend to dry up the ditches themselves. You are dealing with a very delicate and difficult problem when you undertake to say you will divert the water of these streams across mountains into another area.

Now I don't wish to be understood as being in a belligerent frame of mind; I am not. You say engineers will tell us that these things will not dry up a riverbed, that there will still be ample water in that channel. Maybe so. I am open-minded. But I am from Missouri on that question. I have to be shown. And there are engineers and engineers. When you produce a half dozen engineers to testify one way it wouldn't be very difficult to get an equal number as these lawyers know to testify the other way, just as you would medical men, just as you would others. That is why I say these things are not an exact science.

Let's work these problems out harmoniously if possible. We all desire that. But I beg of this association to use every precaution to see that the needs and wants of the people of these valleys are met before anything rash is attempted.

By the way, it may be interesting to the members of the legal profession here present if I call attention to a provision that exists in the laws of the State of Oklahoma. I have never known it in any other state, but there is a statute in that state which provides that the common law is abrogated for the most part--I am not using the exact language--or that all laws shall be interpreted not strictly because they may be in derogation of the common law, but shall be interpreted liberally for the wants and needs of the people. That's been on the statute books of the State of Oklahoma for many, many years. It has never been interpreted or passed upon by the Supreme Court of that state. I think it is a marvelous provision. I think the courts of the state should face up to a proper interpretation of that phrase, that laws should be interpreted to meet the wants and needs of the people.

That is what we ask in this instance, not only in the interpretation of the law but in the administration of the law. And I feel perfectly confident that the members of this association and the Reclamation Association generally, the Reclamation Bureau generally, will find people in this area ready to cooperate to the fullest extent.

Mr. Foster's expressions here have been very interesting and gratifying. He is one of the most cooperative men I have ever known. He's at the head of the organization in this county. He is a broadminded man; the people of this county will probably follow his leadership and I do not mean anything I have said to be in contradiction to the position he has taken, simply that we might decide on the course of action we shall pursue before we relinquish that which we have.

MR. CORY: Seeing that the hour is almost noon, probably we will recess for lunch. Prior to recessing, with the permission of the Chairman it may be well at this point to give you some statistics. As I understand it, the Commission is very deeply interested in statistics, particularly in the areas that they are visiting. This won't take but a few minutes.

In 1942 the Charles Ilfeld Company was sponsoring a series of broadcasts over Station KOB and Mr. Moulton, president of that corporation, requested that we compile statistical information concerning San Juan County.

Approximately a dozen men spent practically three weeks compiling the factual records.

At the outset I want to make this statement that the statistical records I am giving you on San Juan County for the year 1942 are very conservative. We all know and feel sure that the figures that I am going to quote you on San Juan County are very conservative.

We found that there are 54,091 acres of irrigated farm land in San Juan County. This is in 1942. The number of irrigated farms in San Juan County, Indian and non-Indian--that is both--total 2,683 farms.

The estimates on the livestock and others for 1942 were based on dollar estimates on 1941 prices.

We found that there was 8800 head of cattle shipped from San Juan County with a value of \$400,000. There were 55,000 lambs shipped at a value of \$375,000. There were a thousand horses and mules at \$50,000, and 5,000 hogs at \$140,000, which made the livestock industry of San Juan County a total of \$965,000.

In the poultry division we found there were shipped or exported 25,000 chickens at a value of \$15,750; 2,000 turkeys at a value of \$8,000, totalling for the poultry division, \$23,750.

Now in the livestock and poultry products, there were 49,200,000 lbs. of milk exported from this county to the outside with a value of \$450,000. There were 400,000 dozen eggs at a value of \$100,000; and 805,000 lbs. of wool at \$300,000 making a total for livestock and poultry products of \$850,000.

The farm products are strictly non-Indian. We had no way of determining what the value of the Indian products was and these figures as I stated are the figures on the products that were actually shipped outside the county.

There were 500,000 bushels of corn valued at \$450,000. There were 35,000 bags of pinto beans valued at \$175,000; 38,500 tons of alfalfa, \$577,500; 36,000 bushels of wheat at \$36,000; 110,000 bags of potatoes at \$165,000; 40,000 bushels of oats and barley at a value of \$50,000; 30,000 bags of onions at \$45,000. And the truck crop that was shipped, we estimated at \$75,000. There were 10,000 lbs. of honey valued at \$3,000; which makes a total non-Indian farm products shipped from San Juan County in 1942, based on the 1941 prices, \$1,576,500.

The fruit we placed in a different category since this is a great fruit country. There were 300,000 bushels of apples shipped at a value of \$225,000. There were 40,000 bushels of peaches at \$75,000; 6,000 bushels of apricots at \$25,000; 250 tons of grapes at \$10,000; and 30 tons of cherries at \$4,500; making a total of the fruit, \$339,500, and making the total of livestock, poultry, livestock and poultry products, farm products non-Indian, and fruit, \$3,754,750.

There were 5,179,434 gallons of gasoline shipped from Farmington at a value of \$300,000.

I would like to make one other remark. I was told by a person who had done quite a bit of investigating that the Department of Agriculture in 1901 in Washington printed a pamphlet and made the statement that the apples produced in the San Juan Basin in New Mexico were the highest quality and considered one of the finest apples in the United States.

The New Mexico Agricultural College at Las Cruces in 1944 gave this statistical figure: Of the apple orchard acreage in the State of New Mexico, 38 percent lies in San Juan County. That 38 percent produces 52 percent of the apples of the State of New Mexico and we have always felt and we strongly believe with our soil or the climate and other things pertinent that the San Juan Basin in New Mexico probably has no other equal. We don't mean that as a Chamber of Commerce talk, but you gentlemen should know. I believe you want to hear exactly what we feel and we don't say it in a bragging way. But when some trees produce as many as 75 and 80 boxes of apples to one tree, you certainly have good land, good climate, and good water.

JUDGE WILSON: We will turn the meeting back to the Chairman so he may adjourn if he wishes.

THE CHAIRMAN: It is now five minutes after twelve. We want to give everybody a chance to be heard. I think we might recess for lunch but I would like to get back here as promptly as possible after lunch. What time would be convenient? Can we get back at 1:15 or 1:30?

MR. COURY: Can everyone be back at 1:15?

(Assents.)

THE CHAIRMAN: Let's get back here, then, at 1:15.

(12:05 p.m. Recess for lunch.)

(1:15 p.m. Meeting resumed.)

THE CHAIRMAN: Judge, you and Mr. Coury may proceed. I believe the meeting is in the hands of Mr. Coury. Just go right ahead.

MR. COURY: Mr. Chairman, I would like at this time for Mr. Robert L. Maddox of Aztec to address the Commission. Mr. Maddox.

MR. ROBERT L. MADDOX, AZTEC, NEW MEXICO: Chairman Bashore, Members of the Commission, gentlemen: I will just take a few minutes of your time. I am going to be brief in trying to go over the situation in general. But I have been a resident of San Juan County for forty-six years and I came here when I was a very young child. When I was about 18 or 19 years of age during the summer months I worked on an irrigation project on the survey as chainman. I followed that line of work for a number of years; finally got up where I was a leveller, transfer, and I believe I have been on more section corners in San Juan County or as many as any other man in town. Consequently I am familiar with the County as a whole.

I have always been vitally interested in irrigation possibilities because I know from personal contact what this land will produce here when put under irrigation. And I am satisfied from my personal observation and from the technical data and information that I have obtained from various sources that if we put the land under water that is available here, there won't be any water left going down to the San Juan and Animas Rivers.

Another possibility that has developed here in recent years is this gas development. I am at present engaged in producing natural gas with a gas well. I know that one of the gas wells I have--I believe--would pump as far as fuel is concerned all the water that is in the San Juan River at a very nominal cost.

We had some experience over on the San Juan. One man had a pumping plant that was operating irrigating 200 acres at the cost of approximately

\$25.00 per month for fuel.

I know the property south of San Juan. I know there is a million acres out there; I know there is not enough water for the million acres. Take the Las Animas La Plata Project with lands in New Mexico and Colorado; there are approximately 125,000 acres taking the big project that covers the Navajo land on the south side of the San Juan. Therefore, as I say, that would utilize all the water that is available to us flowing down those rivers.

I think one gentleman here said that we didn't have a Navajo problem here, but I don't agree with him on that. I feel we do have a Navajo problem that we are eventually going to have to solve if we are going to give the Navajo Indians what they are justly entitled to. We have a good many of them out here. They live more or less, a large percentage of them, which is a disgrace to this nation, on a verge of starvation. If we can put some of their land under irrigation they will be able to support themselves and become useful citizens. I think it is the duty of the United States Government to see that those Indian rights are protected because when given the opportunity they are very efficient as farmers as well as stockmen. They are able to support themselves on very small acreages, much smaller than is required by the white man.

We do not irrigate all the land that could be irrigated if the water was available because the carrying capacity is small on account of the state of the dams and headgates. The acreage in this county could be substantially increased and the apple, bean, and hog and sheep production would be substantially increased likewise. I think that is about all I have to say on the subject. (Applause.)

MR. CORY: At this time we have with us a farmer who in the past years has irrigated by pumping with gasoline driven engines and pumped with natural gas driven engines, and he tells me he has irrigated 200 acres at a cost of approximately \$25.00 per month for five or six months of the year. At this time I would like to have Mr. Joe Mangum of Bloomfield make a few remarks on his experiences with pumping a 200 acre project farm that he has. Mr. Mangum.

MR. JOE MANGUM, BLOOMFIELD, NEW MEXICO: Mr. Chairman, ladies and gentlemen, Mr. Bashore: I have lived in this county for forty-one years, practically entirely on the same project we have been talking about here today. And in order to keep my water up, I have done some pumping and done quite well, managed to make a living. I find that the natural gas since it came along--I pumped some with gasoline engines before I used the natural gas--I find the natural gas very economical and I watered 200 acres there the first year with it. I think that it's going to prove to be one of the best projects that we have in the way of irrigation in this country.

During these forty-one years this fall that I have been there I have seen the River practically dry and during other times very low in which all the water would be out in the irrigating ditches at times, which shows that we have no water to spare to anybody. If all the land in this county was under irrigation, we would just have to have some storage of some sort in some years. In other years we would have an abundance of water. But the river would get very low some years so that it has been in my time that all of the water in the river was in the irrigating ditches up and down the river. I think from the natural gas standpoint, the land is available and if taken care of by water, we have the finest climate and the finest proposition here that you have anywhere. I don't feel we have any water to spare. Thank you.

COM. BISHOP: Would you mind telling me how high you lift it?

MR. MANGUM: It is just 30 feet. If you men cross the Bloomfield bridge you will notice a little pumping plant right by the side of the bridge and that is my pumping plant. That is the old bridge site.

COM. BISHOP: Would you mind telling us what kind of a pump and what kind of an engine you have?

MR. MANGUM: It is a Caterpillar 60 engine and a Palmer pump.

COM. BISHOP: What size?

MR. MANGUM: It's a 6 inch intake and 8 out, and pumps water--I will say that pump will throw plenty of water for 400 acres.

COM. WATSON: Do you buy the gas or do you produce it?

MR. MANGUM: I buy it.

COM. WATSON: How much do you pay a thousand for it?

MR. MANGUM: Well, I figured it out about 75 cents a thousand. It has raised considerable since then. I don't know just what it is at the present time.

COM. WATSON: Have you made figures or estimates to compare the cost of pumping with gasoline and natural gas so you are satisfied in your own mind the natural gas is cheaper?

MR. MANGUM: Yes, sir; there is no comparison it is just so much cheaper. I pumped with the gasoline on a 6 inch pump this year and it cost me around \$300 for gasoline; and on that big Caterpillar 60 it cost me less than \$200 with the natural gas. So it is very economical fuel.

MR. CORY: Mr. Watson, I believe you asked a question what the rate on the gas was?

COM. WATSON: Yes.

MR. CORY: I think Mr. Foster could also answer that; he is connected with the gas company.

MR. FOSTER: To clear the records there I would like to say that the rates we use and that Mr. Mangum used are 75 cents a thousand for the first three thousand or two and a quarter; 60 cents a thousand for the next two thousand; 25 cents a thousand for the next thirty-five thousand; and 15 cents a thousand all over that up to two million feet, with a 12-1/2 cent rate above two million.

THE CHAIRMAN: Will the reporter just see if we have it right? (Record read.) There is just one question I wanted to ask on that: that pumping as I understand it is out of the River?

MR. MANGUM: Yes, sir.

THE CHAIRMAN: All right, thank you.

MR. CORY: I would like to call on Mr. Dave Martin, who is Secretary of the Bloomfield Irrigation District, which is one of the larger irrigation districts in the county. Mr. Dave Martin.

our irrigation district serves about 4,000 acres of irrigated land which comes from the San Juan River and we irrigate only from gravity flow, of course. And the statements heretofore made regarding production I think will apply probably as well to the Bloomfield Irrigation District as to any other comparable area in the county.

Our costs for maintenance are usually about \$2.00 an acre for actual maintenance. We have had some other charges for deficiency and interest but have retired all of our bonded indebtedness and are now down to a point where our debt is very small and in another year or two we expect to have no charges except for maintenance.

Lying just above our ditch line on the north side of the San Juan River--our ditch, by the way, is taken out of the San Juan River about nine or ten miles above Blanco and is about 35 miles long. Naturally an engineer knows that is a lot of length for the area that we irrigate. However, outside the District there is perhaps a thousand acres of land that is served from the same heading from the same ditch line, but they are old established ditches above our original intake. We have moved up and taken in these other ditches and other lands but they are not included in the District so that we serve altogether about 5,000 acres of land.

Lying just north and above that ditch line there is quite a lot of land that would be susceptible to irrigation by pumping from our ditch. We would hope that in time, if the pumping business develops as we hope it will, a lot of that land could be serviced from our ditch line. In the meantime there is a possibility that a higher line from storage on the San Juan would take care of those lands by direct gravity flow--perhaps not all of it. The ditch line might not be high enough to cover it all. But there are many thousands of acres of valuable land lying above the ditch line on the San Juan and Animas, lying between these two rivers that come together at Farmington, that would be susceptible to irrigation by pumping and that perhaps would not be served by gravity flow. I think that has been very well taken care of.

The matter of diversion of the water of the San Juan is very interesting to us of course. And in that connection there has been some talk of what has been termed compensatory storage. Some have thought that eventually since the question of diversion came up, the people of this county if storage were provided for one acre foot of water should be willing to give up one acre foot of water for use on the other side of the Divide by diversion or otherwise, and just personally I want to register an objection to that. This water comes from now, of course, that falls in Colorado--there is very little of this water that originates in New Mexico--but the snow falls in Colorado and we feel like the Lord put it there for the people of this side of the Divide. He put the snow there and the land here and there are people here to use it.

Mr. Wallace very eloquently spoke here last night of the opportunities of the children here. Well, that is the dream of the people here, to develop this land for the children that are growing up here. The fathers and mothers that are working here don't want the children to have to leave this country and go somewhere else. They love it themselves and they expect their children to grow up here and find development and opportunity for themselves to develop and to achieve their destiny in San Juan County.

There is one other thing that I wish to speak of. It has been pretty well covered and at the risk of duplicating what some others have said I would like to perhaps add a little to what has been said about the Navajo Indian people. Those of us who live in New Mexico love New Mexico; but I don't believe there is a man here, New Mexican or otherwise, that loves

it well enough to take the place of the Navajo Indians and stay with it as they have. Back about '78 or some such time, many, many years ago at any rate, Uncle Sam moved those people out of this country, mostly, and took them over by Fort Sumner, and they were in concentration camps, let us say, for a couple of years or three. They were so dissatisfied and unhappy that they told the Government that if they could be brought back here they would never make any more trouble and they would get along on this reservation. Well, we feel, or at least I do--perhaps I am not speaking for all--that it was implicit in the contract with those people--if not it should have been--that the water the Lord gave to this land should have been given to them with the land.

Now their country is saturated with people. They have come to the point where they can't progress and exist any longer on that little bit of land. As nomads they raise sheep and goats and maybe a few cattle, and some melons and corn and possibly a little bit of beans when the rain is sufficient and favorable, but they have a desperate way of getting along. If they are not provided for they are going to have to scatter over the country in order to exist and live and they are people that do not intermarry. They do not want to go away. They don't want to scatter. And if their land is irrigated and they are provided for in that way, those people in a number of generations will progress and become civilized and will take their places as good American citizens.

We look on them here as friends and neighbors but we do feel that there is a great moral question there to be taken care of, that it's more than a good neighbor policy. They are people that have been in this country hundreds of years before this country was discovered, before the first one of our forebears came to America. And I would just hope that eventually that great problem of a people who should be provided for will be considered by the Commission.

I know if you understood it and if you understand it at the time that it will commend itself to your hearts for a people that have lived and suffered and struggled and stayed with a country as long as they have, if they had an opportunity, which none but the Government can provide and should have perhaps long ago, no one else can provide it for them and they are really, surely, entitled to a break. Thank you.

MR. CORY: Gentlemen, I am going to ask a gentleman who doesn't belong to this area, he comes over from the Rio Grande side--I wonder if the Assistant Director from Region 5, Mr. Thompson would say a few words as to the needs of water on the other side of the Divide.

MR. A. N. THOMPSON, BUREAU OF RECLAMATION, AMARILLO, TEXAS: Mr. Chairman, Members of the Commission, ladies and gentlemen: For the record as a representative of Region 5 who is charged with the responsibility of investigating the Rio Grande Basin, I want it understood that I cannot assume any of the responsibilities of these states in dividing the waters of the Colorado River Basin. Nor can I assume any of the responsibilities of the states and local interests in stating which projects might be constructed after the allocations are made.

I do want to point out, if I might, the Rio Grande Basin, extending in about this area (indicating on map), which embraces two of the Colorado River Compact States, the State of Colorado and the State of New Mexico. We have been studying this basin for several years and find that the economy, the livelihood of this basin is directly related to the three great resources, land, water, and people. We find since before the 16th century that the lands have been brought into production to the extent that practically all of the waters of the Rio Grande are now in use. We also find that additional supplies of that needed resource will have to come, if at all, from the Colorado River Basin. We know the population is going to grow. We know that growth and

maintaining an economic standard depends on water.

In addition to the Rio Grande I might add one more statement that should water come over to the Rio Grande through the San Juan-Chama diversion, it will permit backing water up over the Sangre de Cristo Divide, taking it to other parched lands in the area of Colfax and Mora counties in the Canadian River Basin above Conchas Reservoir. I want to present this statement to show what our needs are and if you care for any more details I would be glad to have you call on Mr. Forester, our project engineer at Monte Vista or Mr. Mutz, our area planning engineer at Albuquerque. Thank you.

MR. CORY: Is there anyone else here from San Juan County who would like to make a statement to the Commission before we turn the remainder of the afternoon over to our good friend from Durango? I want you to feel free. If there is anything on your mind, now is the time to state it; and in order to expedite things, instead of calling on you individually I would welcome having any of you take the floor now if you have any questions or if you have anything to say.

MR. A. J. NEFF, FARMINGTON, NEW MEXICO: I would like to have that letter of Mr. Turley before the convention and I would like to have it read.

JUDGE WILSON: Mr. Neff, do you have any more copies of that?

MR. NEFF: I can make one. I don't think I have any. I wouldn't say for sure. That is the original.

JUDGE WILSON: I am sure the Commission would be interested in reading the letter but it is so long that I don't believe we should read it to them but let them read it themselves. If you have another copy you can substitute a copy.

MR. NEFF: Well, I can make a copy.

JUDGE WILSON: Make a copy and mail it in to me or Mr. Cory and we will turn it over to the Secretary of the Commission and he will see to it that every member of the Commission reads it. But I don't believe we have time to have it read. It is eight or ten pages; it is very long. But we will be very glad to file it with the Secretary of the Commission.

MR. NEFF: All right.

JUDGE WILSON: I will be glad to have you send me a copy.

MR. NEFF: Will you please give me your name? I didn't catch it.

JUDGE WILSON: Fred Wilson, Albuquerque, New Mexico.

COM. BISHOP: I would like to suggest that if he is going to have it typed he have a copy made for each state. That is five copies.

JUDGE WILSON: I don't know whether you want to go into that expense or not.

MR. NEFF: I don't care anything about that.

JUDGE WILSON: That is fine.

MR. NEFF: I consider it important that this letter be placed before this Commission.

JUDGE WILSON: I am sure the Commission will be interested in your article.

MR. NEFF: I will have those copies made. Let me send them to you and let you distribute them.

JUDGE WILSON: Be very glad to.

MR. NEFF: All right.

MR. CORY: At this time I believe I will conclude that portion pertaining to the State of New Mexico. Since many of the projects in this part of the State are interlocked with the southwestern part of Colorado and we have a group present with us from that portion of that basin, I at this time will turn the meeting over to Mr. Dwight Sexton of Durango, Colorado, who will present their portion to the Commission. Mr. Sexton.

MR. D. W. SEXTON, DURANGO, COLORADO: Thank you, Mr. Cory. If you gentlemen will excuse me I will not try to stand. For the benefit of the record I am Dwight Sexton of Durango, Secretary-Treasurer of the Southwestern Colorado Water Conservation District, comprising the counties of western Montrose, San Juan, La Plata, Archuleta, Hinsdale, San Miguel, Montezuma, and Dolores.

Gentlemen of the Commission, we are mighty happy to be here, as we always are, and participate in anything of a water nature in which we are so closely associated with New Mexico. We are just across the Line in Colorado, and as has been stated before, we grow the water up there that you people down here use.

We are vitally interested in a number of projects. I think the largest and most important to our entire San Juan Basin is the Animas-La Plata Project. That project, I believe, consists of some 110,000 acres and is approximately divided equally, 50 percent between Colorado and New Mexico. There may be just a little difference there. That project consists of some nine reservoirs starting at Howardsville above Silverton, Colorado, and extending clear through into New Mexico. We feel that is one project that must be undertaken. It should be a "must" on the reclamation list and it is a "must" as far as New Mexico and Colorado are concerned.

We next feel that the Pine River Extension is second in line. We have the Vallecito Reservoir already completed. We ask that the present canals and laterals be extended to cover some 50,000 additional acres. That also includes land in Colorado and New Mexico in which we are both vitally interested.

Then we have the project that is not so far along, on the Florida River. That river I believe would have no connection with New Mexico outside of where it empties into the Animas, which is entirely within the State of Colorado. That project would consist of some 20,000 acres over all--7,000 acres of additional land and including supplemental water for some 13,000 acres presently irrigated. In that also the City of Durango should have a vital interest in that future water supplies must come from the Florida River.

The Jackson Gulch or Mancos Project we want to just mention briefly in that it was started some few years ago with conscientious objector labor. At the close of the war this item of labor was discontinued and the project was put up for contract construction. Then the President's economy order came along and this project is at present frozen. It takes in some, I believe, a thousand acres of additional water for lands in that basin plus domestic water for Mesa Verde National Park. I think every effort is being made to blast that

know. Those briefly are the items that we are interested in with our neighbor New Mexico.

We feel that we are against any diversion, either to another basin or transmountain, until such time as the Bureau has had ample time to make sufficient studies and prove that there is water available for the immediate basin. If they prove that, then we will talk to them about diversion intrabasin or otherwise.

We have in the eastern end of our District the counties of Hinsdale and Archuleta. We have a director present from Hinsdale County and I would like to call now upon Archie Toner, who will give you the ideas of Archuleta County in the eastern part of our District. Mr. Toner.

MR. ARCHIE B. TONER, FORT COLLINS, COLORADO: Mr. Chairman, Judge Wilson and Mr. Coury: Water becomes more vital to us every day. I wonder how many of you men ever experienced being in a town where you couldn't even buy a drink, you couldn't get a cup of coffee or you couldn't get water enough to shave by. I experienced that day before yesterday, spent a little over fifteen hours in that town and we couldn't get a drink of water.

Now that brings home very vividly to us just what water can mean to our town and to our farms. I think one of the first things that all of us who are interested in the waters of the Colorado River and the Upper Basin particularly should do would be to acquaint ourselves with the projects in the four Upper Basin States and including that part of Arizona which is considered in the Upper Basin. That is one of the main things. Now our Commissioners are fairly well informed on that and the rest of us should become more so. After this water is allocated we will all begin to discuss it, farmers and all of us, and trips through the upper reaches of the Colorado River would be wonderful vacations to any and all of us. There are many things to see up there, good land up in this part--I mean New Mexico and all of them. There are many wonderful things to see, reservoirs in construction, already constructed, and some of them in the process of engineering surveys being made.

Now we of the Southwestern Water Conservation District feel that we are vitally interested in the lower part of the San Juan Basin, that is, New Mexico and that part of Arizona because their problems are our problems. We are more or less isolated. We are isolated from our capitol city and our industrial area just the same as the people of San Juan County are isolated from theirs. I have a particular interest in San Juan County because I was born here in this town, but when I was quite young they tossed me over the fence, and until '37 we owned a farm here in San Juan County.

If we would take a few moments and project ourselves into the future and try to see the picture that this Commission will--they will be the governing body of the picture in the future hundreds of years from now. We can't consider the period of our lifetime; we have got to consider our relatives in the future, our sons and daughters and granddaughters and on down the line for a period of hundreds of years. We must do that now. The Commission realizes that and we people who are bringing information to them must realize that that is the thing they must look at in the future.

We have been told in the past few years, oh say since 1930, that we had a vast surplus of meat animals in the United States, and I dare say 90 percent or maybe 99 percent of us have believed that we had a surplus. But we started out with 72,000,000 head of cattle--using cattle as an example--that is what we started out with in 1930. You know what happened through the depression. Our standard of living dropped to where a large percent of the people couldn't afford meat. They just didn't have the "wherewith" to buy it. Then we built up our population about 12,000,000

head to close to 85,000,000; the war came on, raised our standard of living, and it is the dream of everyone of us to keep that standard of living where it is today and if we do we have no surplus of cattle. We have no surplus of hogs or sheep.

The sheep population is dropping rather drastically and just mentioning how that can affect us: Take Australia and there. One of my classmates in college is over there. He is administrator of the food we ship to Australia. He wrote back a few months ago and told us what the situation was there. They have lost the major part of their sheep in Australia due to drouth. That's going to help raise the price of wool in this country.

That all leads up to this: The increased need, the increase in population since 1930 has been rather large and it will continue to be large, the increase--it means we are going to need more meat animals and the Forest Service report the forest lands are stocked to capacity today, public domain is stocked to capacity, and we are going to be forced to resort to some other means of raising this livestock. That will mean tame grass and irrigated pasture. That has been one of my hobbies for many years, experimental work along that line.

And we can well utilize all of the water on this side within the Colorado River Basin and that some people think we may have as a surplus. In the future we can utilize every bit of that right here in the Upper Basin to develop tame grass, irrigated pasture, and thereby raise enough beef animals, hogs, cattle and sheep, and poultry, to take care of that amount of water. I mention poultry there because that is a growing industry in the United States, and to raise pullets up to the laying age economically you can utilize a very large amount of pasture, as we call it--range, poultry range. They will do fine up to the laying time and then they must be taken off and put on regular feeds.

I think everyone of us--I hope everyone of us--has confidence in the men who have been appointed to make the decisions on the allocation of the water in this Upper Basin. Then let's give them our support and after they have made their decisions, let's not do a lot of crabbing and go ahead and abide by those decisions and make a concerted effort. Now as Honorable Billy Wallace said the other day, he said, "Regardless of how these decisions are made, the water is to be used by Americans." We are all Americans and we must be patriotic in our attitude on the division of this water. I thank you.

MR. SEXTON: Mr. Coury, I find that I didn't put into my short report the Dolores Dove Creek Project. The reason I didn't was because I understood it came in the Grand Junction meeting, but it might be well to mention it at this time. That is the contemplated reservoir on the Dolores River to take in that vast bean empire around the Dove Creek section over there. That has long been under study but as yet nothing concrete has come from those studies. We are asking that the Bureau expedite those studies just as fast as possible so that the people of that region may have their opportunity to either accept or reject.

Have I covered everything, Judge Stone, from this end of it?

MR. TONER: We might mention a little something on the San Juan-Chama transmountain diversion there and how it is directly connected in the two states. The San Juan-Chama diversion, the big diversion that pertains to the San Juan Basin as a whole, both in Colorado and in New Mexico, would service a sizable amount of land in Colorado in the Kiute Park area which lies partly in Colorado and partly in New Mexico. Then right on south of that, with not too long a canal, we could service a lot of land in the Dulce, New Mexico, country; and then the balance of it could be taken around a long canal--expensive--but

it could be taken around and placed on the South Bloomfield Project.

Then in the report there is a definite figure set to take care of small projects in the country. We have a good many on our side of the State Line there and there are a few in New Mexico on this side of the State Line that are small and not expensive, but they do service a good type, Class 1, land, that we would like considered in there and figured in the division of the water.

The time will come in the not too far distant future when we are going to need to utilize all the land we possibly can do due to the depletion of the soils in the East and Middle East. We are going to have to go to new lands. We have not yet gotten across to a large percent of our farmers the proper methods of irrigation. That is up to we people in the states connected with the college to do that. We can save water; we can save land. You people who came across the Dove Creek area no doubt saw very good examples of the right way and the wrong way to farm on dry land, and the same applies on irrigated land. Thank you.

MR. SEXTON: I think that is all we have, Mr. Chairman. We thank you very kindly for your courtesy.

MR. COURY: Thank you, Mr. Sexton. I ask again before turning this back to Mr. Wilson, is there anyone else present locally who has anything to say or wishes to say anything at this time? (No response.) If not, I will turn this back to Judge Wilson.

Before turning it back I would like to briefly state the viewpoints as we have presented them to the Commission for their deliberations in arriving at a conclusion with respect to the ultimate division of the water. As you have noticed this morning with the huge development of gas fields in San Juan County within the past six or eight months, the matter of pumping water with natural gas has definitely come into the picture. Probably the Bureau of Reclamation and others, being that it is a relatively new idea, haven't given it much serious thought. But I certainly believe that the Commission in their deliberations before arriving at their ultimate conclusion in the division of the water should take into consideration such factors as pumping water with natural gas.

Of course, Judge Wilson I believe at Salt Lake made a statement that it may be wise to divide a certain number of acre feet among the four states equitably and possibly leave the balance of it for a few years hence to be divided. After listening to what the various persons stated here today I have mulled it over in my mind and I believe probably that if that can't be done, in the division of water every state should be at least reserved some certain number of acre feet for possible projects that probably none of us can see at this time. Nevertheless we all feel sure that the Commission in their deliberations and making their final report will probably take all this into consideration; however I felt that I should restate that at this time.

I will turn this meeting back to Judge Wilson.

JUDGE WILSON: Thank you, Mr. Coury. Now on behalf of Mr. McClure, who is the Commissioner for New Mexico, I would like to thank the people from New Mexico as well as the gentlemen who came down from Colorado, for coming here and expressing your views. I think all of you who know Tom McClure know that he will in future negotiations be zealous in guarding and protecting the rights as he sees them of the people of New Mexico. But I think you will also find that he realizes the importance and the necessity of recognizing the interests and rights of the other states in the waters of this basin.

I am very glad to observe the splendid spirit of cooperation that seems to exist between the people in Colorado and the people in New Mexico in this area. It is that sort of a spirit that will settle problems, if they are settled, amicably and reasonably.

In closing I want to say this, that I believe this Commission realizes that it is not its duty, and all of you realize it is not its duty or within its province to say where the water is going to be used in any state. They will attempt to make a fair and just and equitable allocation of water considering the states as a whole, the needs of the states as a whole, the people in them; and then it will be up to the people of each state to determine where the water will be used. I am sure that the people of each state can do that because I feel that the compact method of settling interstate matters is on trial and if these five states can't get together and make a fair and just and equitable allocation of this water, then you need not be surprised if we are confronted with additional bureaucracy with greater powers. The Government will assert greater powers, because progress is going to continue one way or the other and we all want it to continue under the democratic process and the compact process.

I thank you Mr. Commissioner and I will now turn the meeting back to you.

THE CHAIRMAN: The Chairman on behalf of the Commission wishes to express the appreciation of the Commission to you, Judge Wilson, and to you, Mr. Coury, and to Mr. Sexton and Mr. Toner from Colorado, for the efficient and orderly conduct of this meeting; also to you, Mr. Coury, for making our arrangements in advance here in the way of hotel accommodations so efficiently. And thanks to the people of this community for their hospitality. I don't believe there is any doubt in the minds of the Commissioners today in regard to the possibilities of raising apples in the San Juan Basin. I judge that from the evidence before us. It has been a very successful meeting and all of you have made contributions. You have expressed your ideas and you have had the opportunity to say what you have wanted to say. The Commissioners I feel sure all appreciate that.

I wish to make one or two observations and I want to be very brief. References have been made to feasible projects, references have been made to the Colorado River Report, and perhaps some of you conclude that the projects listed in the Colorado River Basin Report are feasible projects. Perhaps they are, but it depends upon the formula or the standard you apply as to their feasibility. This Colorado River Report wherever figures on cost are used, refers to the situation existing on January 1, 1940. Now those costs are out of date as you all know. Take the price of pinto beans in this community; it is considerably different than it was January 1, 1940.

Apparently the Bureau of Reclamation did not attempt to say that these projects were feasible, and with your indulgence, I would like to read from page 1 of the Regional Directors' letter of March 22, 1946:

"This report, with its substantiating material, provides a basin-wide perspective for planning development on a sound basis. It is intended to serve as a medium through which the Congress may be apprised of the potentialities for the development of the basin's water resources and as a guide in the selection of projects that ultimately will comprise the comprehensive plan for the utilization of the waters of the Colorado River system for irrigation, electrical power, and other purposes."

On page 19 of the report I quote as follows:

"The total estimated construction cost of all the potential within-

basin projects outlined in this report is \$2,185,442,000, based on January 1940 prices. Cost allocations to some benefits of a public character cannot appropriately be considered repayable by the water users under Reclamation laws. Of the total cost, it is estimated that an allocation of \$25,000,000 may reasonably be made to flood control. It is further estimated that gross revenues collectable from irrigators, power users, and municipalities will amount to \$57,500,000 annually in excess of costs for operation and maintenance. The latter sum could be applied toward repayment of those reimbursable costs resulting from the allocations made to the various benefits."

Now whether the projects listed in the Colorado River Basin Report are feasible or not will have to be resolved by the Congress. Certainly I doubt very much, as an individual, whether any of them are feasible under the Reclamation Law as it exists at the present time. However, the Bureau of Reclamation was directed to make a report and that is the report. Now as to what becomes what is an undetermined question at this time. Perhaps if the compact is worked out, the next step will be an attempt to secure a basin-wide authorization for development on some formula not now existing but perhaps similar to that of the Missouri Basin development.

So I make those remarks simply to show you that we have a long ways to go. It is necessary for everybody to work pretty closely together to work this out. The Commission has a big job and you folks have a big job, too. I was impressed with what Mr. Toner said: After the Commission does the best it knows how and comes to some impartial decision, fair to everybody, then in place of doing a lot of crabbing, you get behind it and try to support it because it has a long way to go after this Commission negotiates its compact. It goes to the legislatures of the five states and then to the five governors for approval; then it goes to the Congress of the United States, passed by the Congress of the United States and then signed by the President, if you please, and the President might veto it. There are a lot of hurdles to go over.

I was very much interested in the remarks about the possibilities of pumping with gas. That is something that I think we can all look forward to with hope. But at the same time we must not forget that the difficulties of the old irrigation systems today are largely on account of the low summer flows, and you can have an excellent pumping plant without storage and you are still in difficulty. So storage is going to be necessary on the Colorado River in spite of everything, in spite of all the economies we can introduce into the matter of the operation of irrigation systems.

At the beginning of the session we neglected to introduce the Commissioners from the various states, and at this time the Chairman will call on the Commissioner for Arizona for any comments he wishes to make.

COM. CARSON: Mr. Chairman, gentlemen, I certainly appreciate this meeting and the things that you have told us and want to assure you that we will take them into careful consideration in the progress that we may make.

I don't know that it has yet been explained to you that there is an Engineer Committee appointed by this Commission now functioning, gathering facts, and we are trying to ascertain the facts before we undertake to negotiate this compact. And when those facts are ascertained, we will try to negotiate a compact the best we are able with a full feeling and sense of the responsibility we are undertaking, and with the hope and purpose of doing injury to nobody and benefit for all of the Colorado River Basin States.

This is all one area, one economy. What helps you helps Arizona. What helps Arizona helps you. What helps you helps Colorado and what helps Colorado helps you. It is a matter of adjusting it as fairly and equitably as we can so that ultimately this Upper Basin area will completely utilize and consumptively use 7,500,000 acre feet of water. Thank you.

THE CHAIRMAN: Thank you, Mr. Carson. Going in alphabetical order, the Chair will now call on Com. Stone of Colorado.

COM. STONE: Mr. Chairman, Members of the Commission, gentlemen: Here today as elsewhere we have discussed and there has been much comment concerning the allocation of the water reserved to the Upper Basin under the Colorado River Compact. It seems always to happen in these meetings that we lose sight of a very important element which must be considered by this Commission in negotiating a compact. I refer to the obligations of the four states of the Upper Division to make deliveries of water at Lee Ferry--those four states, Colorado, New Mexico, Utah, and Wyoming.

Someone has referred to the water which arises in the mountains of Colorado and flows into the San Juan Basin. That situation is typical throughout the Upper Basin. These states in signing the Colorado River Compact have already pledged themselves--and it is the purpose of these states I know to observe the Colorado River Compact--to deliver 75,000,000 acre feet of water over continuing ten-year periods at Lee Ferry. That must indicate to you very clearly that whereas in a meeting such as this we are wont to consider the benefits and to talk about the allocation of the water that will benefit us, we must consider a present and a continuing obligation. I want to mention that to you because you must know that this Commission in making allocations of water must likewise consider the respective obligations of these four states to make deliveries of water at Lee Ferry.

Figuratively we are given a pail of water. We have got to empty out half of that pail of water for the Lower Basin, and then we allocate among ourselves, among the five states, what is left.

So that is important when we think of projects and potentialities of development in any area; and when we think of the water that is in that area, there is a present obligation against that water under the Colorado River Compact. We cannot, and keep our obligations under the Colorado River Compact, disregard that very important matter. It is important to call that to your attention I am sure.

Fred Wilson made a very appropriate remark and I should like to briefly emphasize it. He stated that this Commission is obligated and is charged, if you please, with making the allocations among the five states. We haven't got very many things to feel fortunate about in this job we have undertaken, but I think we can feel fortunate that we are not obligated to determine the distribution and use of this water within each state. That is a problem and a matter for each state to decide and work out for itself. The Commission, as would be true if a Supreme Court decision were rendered, is obligated to determine the equitable apportionment among the compacting states. That means a mass allocation of water to each state. What each state does with that water and where each state uses that water, I take it--in fact I know--is not the concern of this Commission. That is the concern of the states and the citizens of each of the states, to work out in cooperation with the Bureau of Reclamation where the Bureau of Reclamation is engaged in working out project plans.

Then another question which came to my mind while some of this evidence was being introduced here today was with reference to what each state is going to give up. It seems quite clear to me on the basis of the Bureau Report that no state is going to be able to get all of the water it would like to have.

The report indicates, I believe, something like 2,000,000 acre feet in excess of what we have if all of the projects that are envisioned in that report were built. And so we get down to the question of an equitable apportionment of a very scarce and limited resource.

Now this question of equitable apportionment is sometimes determined by the courts. In this case we are attempting to determine it amicably through compact negotiations. That is reached by an agreement and we, the Commission, only negotiate a compact. In the end the legislatures must ratify and the Congress must approve of it. I was also much impressed with Judge Wilson's statement that we are on trial, very definitely on trial. We are attempting to demonstrate the states under our constitution and in a democratic way can work out our own water problems. And as he said, this limited resource and its use is going to go forward and if we don't set the pattern some higher power is very apt to set it for us. So we have not only got to be patient but we must be very fair in dealing among ourselves.

That brings to mind another matter which I think we should keep in mind. The immediate occasion for the agreement of the states to initiate compact negotiations is the statement in the Colorado River Report that in a major way--not to the last detail but in a major way--development within the Colorado River Basin by the Bureau of Reclamation had proceeded about as far as it could go until the states had performed in the Upper Basin one important function, namely, the determining of how much water each state could use for its future development. You have mentioned projects here, all of them important. But I think here as elsewhere in the Basin, except for small projects that are clearly within what might be a state's share of the water, we cannot proceed much further until this allocation has been made.

Someone has mentioned this matter of engineering studies. We joshed the engineers a lot at the meeting last night and yet we find that they are like a right arm in this work. It seems so utterly foolish in this day with so much information available--not as much as we would like to have--not to carefully sift and understand that information and to properly apply it in determining equitable apportionment. Many of these troublesome questions are resolved through an understanding and agreement upon the facts. Lawyers, some of us lawyers, may quarrel endlessly and find that our arguments are of little avail in the face of the actual facts which must be understood and applied in making an equitable apportionment. For that purpose this Engineer Committee was set up.

Some have assumed that the report of the Bureau of Reclamation furnishes all of the facts. Well, in the first place, the states owe it to their citizens to ascertain whether those facts as found by the Bureau are in accordance with the views of the state. Secondly, there are many important factors of factual information which are needed in making an equitable apportionment which are not covered by the Bureau's Colorado River Basin Report. Some of the matters which are covered do not go far enough for the purposes of making a compact. And so this Commission put the engineers to work and this committee is acting in an advisory capacity to give us the facts before we begin to talk about the apportionment. And, as the Chairman told you this morning, we now have a Legal Advisory Committee.

This is a case where we have got to realize that the Upper Basin is an empire in which all of these states have a common interest and we must work together with an understanding of each other's problems while at the same time zealously considering the rights of each individual state. I hope that we can keep that in mind and that as we go along and if and when a compact is negotiated we shall be able to support it not only with the facts but

Before I close my statement I wish to express our regret that our friend and co-worker, Thomas M. McClure, Member of the Commission for New Mexico, is unable to be here today because of illness. Tom has had wide experience in compact making. He not only has a rich background of experience but--and I have served with him on two other compacts--it has been my experience that Tom McClure will be fair and at the same time will zealously represent the interests of New Mexico. You, indeed, have an able and capable man on the Commission. He has the assistance of a very capable legal adviser in Fred Wilson.

We all want to express our appreciation for your presentation here today. That is our primary function here--to hear from you and to get your statements and I assure you they will be given full consideration.

THE CHAIRMAN:: Mr. Watson, Commissioner for Utah.

COM. WATSON: Mr. Chairman, ladies and gentlemen, I wish to express to you my appreciation for the fine spirit of cooperation that you have evidenced here and for the many facts that have been brought out. Such a hearing is the democratic way of arriving at a conclusion. If in all of our difficulties in our lives we could have a common understanding, if we could sit down and talk things over with our opponents and our adversaries, in nearly all cases we would come to a fair conclusion. This is particularly true in a case of this kind.

The hearings that we have had in other states have been of the same order as this hearing. They have brought forth certain facts that we must consider.

You know in this Rocky Mountain cordillera, we have a great desert and the communities where men make their living are mere oases in that desert. In that desert there is a great river that now goes in large part to waste--in to the ocean. In spite of all that we may do at the present time, much of the water goes to waste. If the energy of that river could be calculated, we would find the loss would be stupendous. So the sooner we can agree upon a formula to apportion equitably these waters the better.

It is true that a long time will have to pass before the final answer and before the final drop of water is utilized. Great reservoirs will have to be built to level out the river so that the water that is now going to waste can be properly utilized. However, at the present time I think we should make an effort to divide the water equitably and on a just basis. Very soon we should have projects developing in each state. It is such a hearing as this that stimulates us and collects the facts so that proper conclusions can be made.

Now when this Engineering Committee reports it will recommend certain facts upon which an equitable apportionment of the water can be made. This Commission is not bound by the recommendation, but it may be such that it can be accepted. It will tell this Commission where the water comes from and how the stream acts. The origin of the water may not be the most important question, it hasn't been in the past. States have gotten water that don't produce any at all, so that may be a minor issue. Then it will tell us how the water can be regulated in the stream, how the river can be made to act subject to our will. That will be a very important question. There are places in the Basin where types of beneficial use are of the very highest, municipal use if you please, and also the raising of very productive crops. This is important. The saving of a civilization may come into the picture. These are all things that this Commission must fully consider.

I again wish to thank you for your good work and I am sure everybody

here will do his best to fulfill his obligation.

THE CHAIRMAN: The Commissioner for Wyoming, Mr. Bishop.

COM. BISHOP: Mr. Chairman, ladies and gentlemen, I am indeed pleased to be here today and listen to the problems of the people of New Mexico. From what I have heard in all the other states, your problems are the same as our problems. We all have much more land than we have water.

It is our job on this Commission to divide the 7,500,000 acre feet of water allocated to the states of the Upper Basin by the Colorado River Compact. The Bureau of Reclamation Report shows that we need more than 9,000,000 acre feet of water to take care of the projects that they have proposed. So it's the duty of this Commission to sit around the table and work out a plan for equitable division of that water.

I am not going to try to make a speech about this like all these other fellows because they have taken away all my thunder. All I want to say, ladies and gentlemen, is I thank you for your hospitality and Wyoming is willing to sit around the table with the other fellows and be reasonable in making this division. Thank you.

THE CHAIRMAN: After we adjourn I would like to have Mr. Riter meet with the Commissioners for just a few minutes. Judge Wilson, I didn't call on New Mexico because you I think did your share of the work today, and unless you have further remarks to make and unless the Commissioners have further business to come before this meeting, a motion is now in order for the adjournment.

JUDGE WILSON: I have nothing further.

THE CHAIRMAN: I forgot one thing here that is very important. We have a gentleman here with us today who it doesn't make much difference where you go, if it is a meeting about water, he is present. He doesn't like to have anything to say but he is sure a strong listener; and if he is called on he generally has some very good advice to give us. I don't want to introduce him as a citizen of Utah but rather as a citizen of the West. Mr. Wallace. (Applause.)

MR. WILLIAM R. WALLACE, SALT LAKE CITY, UTAH: Mr. Chairman, I have perfect faith in the willingness and ability of this group to secure all the necessary data and to arrive at the right conclusion. However, I would like to say that I listened with great care to a statement made by the Chairman when these meetings began in which he outlined the information, the quantity and its quality, that was required upon which to base a decision. I have listened carefully and I waited until this time to ask a question.

I have listened very carefully to the reports made by Mr. Riter as Chairman of that Committee. He has confined himself as nearly as I could judge to two problems, the source of the water and the amount of the obligation of each state to deliver water to Lee Ferry. There has not been a settlement made yet in any of these major problems that has not been based as the major item upon the use of water. We have heard no discussion of the use possibilities.

Our settlement with the Republic of Mexico was on the basis of use possibilities. Our settlement with the Lower Basin was on the basis of use possibilities. California produces practically no water and the settlement was on the basis of use possibilities. That is true with the main stem of the Colorado in Arizona and it is certainly true as to the State of Nevada. I don't know why that is the case but I look upon it as far as the State of

Utah is concerned that the paramount item is based upon the possibility of the use possibilities. I like to refer to that matter because I think so far as my state is concerned, it is the major item.

Now I would like to ask a question: Why in the study of the engineer group has that problem not been brought to the fore?

I am not a lawyer or an engineer; I am just an ordinary businessman. But by George it is the one thing that we can look forward to in the West based on our tremendous mineral resources and based on our climate and ability to raise these wonderful fruits. And not only agriculture. The first call upon water supply is water to drink. The next is for municipal supply, all the various uses to which a municipality can put water. The third is agriculture and there can be none of these others unless agriculture is prosperous. And last is the application of the water to the making of power.

I know the Chairman well enough and I know it was in his heart and I know how he emphasized it at the first meeting, said that we should have approximately all the facts before this decision is made; and certainly one of the major factors is that of use of water supply.

Thank you very much, Mr. Chairman. (Applause.)

THE CHAIRMAN: Thank you, Mr. Wallace. Does the Chair hear a motion for adjournment?

COM. STONE: I move we adjourn.

COM. CARSON: Second.

THE CHAIRMAN: It has been moved and seconded that we adjourn. (Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

(3:00 o'clock p.m., Saturday, November 2, 1946, Meeting No. 3 of the Upper Colorado River Basin Compact Commission adjourned.)

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

OFFICIAL RECORD OF MEETING NO. 4

September 8, 1947

State Capitol Building

Cheyenne

Wyoming.

MEETING NO. 4
Cheyenne, Wyoming
September 8, 1947

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COMMISSIONER FOR THE STATE OF WYOMING:

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J. R. Riter Chief, Hydrology Division, Denver, Colorado.
E. P. Dugan Engineer, Hydrology Division, Denver, Colorado.

PROCEEDINGS

The meeting was called to order by Chairman Bashore at 3:00 o'clock p.m., Monday, September 8, 1947.

THE CHAIRMAN: As all members of the Upper Colorado River Basin Compact Commission are present the Commission will now come to order.

Gentlemen, it has now been about 13 months, I believe, since this Commission was organized. It has been about 11 months since the Commission held a series of field hearings, the last one at Farmington, New Mexico. On that occasion the Commission was handicapped by the death of one of its members, Mr. Tom McClure of New Mexico. Fortunately Judge Wilson had attended all of our meetings with Mr. McClure and I am sure we are all glad that Judge Wilson was appointed to take his place.

I submit for the record the official certificate of the appointment of Fred E. Wilson as Upper Colorado River Basin Compact Commissioner for New Mexico:

"C E R T I F I C A T E"

"To Honorable Harry W. Bashore,
Federal Representative and Chairman,
Upper Colorado River Basin Compact Commission.

This is to certify that at a meeting of the New Mexico Interstate Stream Commission held in Santa Fe, New Mexico, November 19, 1946, the following motion was made, seconded, and passed, and appears in the minutes of said meeting:

Mr. Coury : Mr. Chairman, I move that Fred E. Wilson be designated by this Commission as Commissioner for the State of New Mexico on the Upper Colorado River Basin Compact Commission, to negotiate in behalf of New Mexico and the Interstate Stream Commission in reference to the allocation of the waters of the Upper Colorado River among the four Upper Basin States and Arizona, to succeed Honorable Thomas M. McClure, deceased, who was heretofore designated as Commissioner.

Mr. Hurley : I second the motion.

Whereupon the Chairman called for a vote on the motion, and all present having voted in the affirmative, said motion was declared passed and adopted.

IN WITNESS WHEREOF I have hereunto set my hand, as Secretary of the New Mexico Interstate Stream Commission, this 19th day of November, 1946.

S/ John H. Bliss
Secretary

APPROVED:
S/ J. D. Atwood
Chairman"

About 11 months ago the Commission appointed an Engineering Advisory Committee to analyze and work out some data which the Commission thought was needed. That Engineering Advisory Committee has been at work and undoubtedly has done good work and the data that has been collected will be of value.

We heard this morning in the Governors' meeting that possibly the

Engineering Advisory Committee will be able to submit a report in November. That will be about a year from the time it went to work. No doubt after that report is submitted there will be other studies that may be needed; and there is not a bit of question in my mind but that studies will be made on the Colorado River until full development is reached and such studies will be necessary.

I want to call to the attention of the Commissioners that the next regular meeting of the legislatures will be January 1949. Father Time is moving the pages of the calendar and we have something like 15 months left to get a compact ready for the consideration of the legislatures. At the rate we have been moving I don't believe that it will be ready. Something must be done to accelerate our movement, that is, it seems that way to your chairman.

Now the purpose of this meeting, as I see it, is to decide what we are going to do to accelerate negotiations on this compact, if such is possible. Possibly you don't want to accelerate it. I don't know. That is for the State representatives to decide. Personally your chairman would like to see it accelerated. He has held himself in readiness for any meeting that any member of the Commission might think desirable. I am an engineer myself and I don't want to depreciate analyses and studies and so forth. There must be an end to all things, but studies can go on and on forever if you so desire.

I put it up to you as plainly and squarely as I know how. I am still hopeful that this compact may be worked out by the 1st of January, 1949.

Your chairman firmly believes that it is not possible to make any further development on the Colorado River in any state without a compact. During the Governors' conference this morning I heard talk about partial development, water that is certainly within the allocation of each state. I can just imagine the states sitting down together and agreeing on anything like that. But I do think that Governor Maw made a suggestion this morning that is workable, that you can have your safe development after a compact, and in my opinion that is a very intelligent way of going at it.

I will say this further that nobody in existence today or in the future, outside of Providence, can say what the water supply of the Colorado River is going to be. You can study it and study it and study it. It isn't possible of exact mathematical determination. You can approximate it. You can make about five guesses and then figure it out in thousandths. True, you have your water records and you can take an average of 10 years or 15 years or 40 years and you will get different results, and then when you get next year's record it will change all those results.

So I offer this suggestion in support of what Governor Maw said this morning, that the Commission attempt to negotiate this compact on the basis of percentage without attempting a lot of fine-haired calculations as to what the amount of water is because it will change from year to year. The benefits and responsibilities would be on the percentage basis. I believe that can be done and it will not injure any state, and I offer that for your consideration. I earnestly solicit any criticism of what I have said, or any suggestions you have of your own.

My earnest hope is that we will be able to show some results. I have put it up to you plainly as I always do and I haven't pulled any punches and I have said exactly what I think about it. I would like for you folks on the Commission to do the same thing.

COM. BISHOP: I am always ready to express my views and I will say this for the purpose of the record: that Wyoming continues to believe that it is unnecessary to wait for the Engineering Advisory Committee to finish their studies in view of the fact that it is quite generally agreed among these

Commissioners that these studies will not form a basis for the allocations to be made by the Compact.

Perhaps I had a misconception of what the Engineering Advisory Committee was supposed to do to start with. It was my idea that they were to go ahead and work up the information for us and that we were to go ahead and negotiate the Compact and they were to be there to answer questions; but it wasn't my idea that the Compact was to be held up waiting for them to get information on certain details.

It is my position, backed up by the Commissioners from Wyoming, that we should go ahead and negotiate the Compact with the information we have, which we believe is adequate. It's more or less of a horse-trading proposition when you get right down to it in view of the fact that there are more lands than there is water. We believe the practical thing to do is to get down to business and negotiate the Compact and get it over with. That's all I have to say.

THE CHAIRMAN: You are next in line, Judge Stone.

COM. STONE: Did you say you wanted us to speak plainly?

THE CHAIRMAN: Absolutely. That is what we need. I also, Judge, invite criticism of any remarks which your chairman has made. If he is in the wrong I would like to be put straight on any opinion that I may have, but I feel pretty strongly on the situation and I would like to be corrected if I am in error.

COM. STONE: Well, Mr. Chairman, I think we should at least keep the record clear. The minutes of this Compact Commission disclose that unanimously we adopted a program of engineering studies. We appointed an Engineering Advisory Committee and directed them to make certain studies. The record also shows that there would be no further Compact Commission meetings until the engineers were ready to report. The Chairman of that Engineering Advisory Committee, Mr. Riter--and a very competent and capable chairman--was to advise Grover Giles, the Secretary of this Commission, and he was to advise you, and when that advice was submitted to you, you were to call a further meeting of this Commission. That action was taken unanimously.

In the face of that situation I don't think, Mr. Chairman, that you can accuse these Commissioners or any one of them, of being in a state of uncertainty and indifference. This matter is too important to all of us, and the necessity of an early compact is too great, for it to be assumed that any state is in a state of indifference or uncertainty, nor do I believe it is leading to confusion. I have read the minutes of this Engineering Advisory Committee and I have observed that it is doing a very constructive piece of work and it is submitting to us data which will be a guide to each Commissioner in determining what is equitable and fair in making an apportionment of water and in determining the respective obligations of the states to make deliveries at Lee Ferry.

It has been said here that it is a horse-trade. Well, all I have got to say about that, maybe in the end there will be an element of horse-trading in it, but Colorado feels that we shouldn't trade horses in the dark.

So long as all of these states have been contributing their work and the time of their engineers to meet two or three times a month, at least once a month, on this Engineering Advisory Committee--and in the case of Colorado we have been devoting most of the attention of the entire engineering staff of the Colorado Water Conservation Board to arriving at certain

facts and information--I don't think that it is a situation of indifference nor a situation of uncertainty and I don't think that it leads to confusion.

I will frankly admit that there is an end and a limit to engineering studies and I know that you cannot arrive at any exactitude or any exact figures; but I have observed that the Bureau of Reclamation doesn't authorize a project without some engineering studies and some estimates of water supply, some estimates of many other things. We are charged on this Commission with cutting a pattern of water development not only for this generation but for future generations; and for us to proceed wholly in the dark and to throw to the winds the work of a capable Engineering Advisory Committee extending over the past 11 months, I believe you said, seems to me to be very unwise.

That Committee estimates it will be ready with a report this fall. Now I agree and subscribe to the desire of reaching an early compact, but may I call to your attention, Mr. Chairman, that there are many things that this Commission can be doing in order to expedite the making of a Compact, that we can well be doing while the Engineering Advisory Committee is completing its work.

You are the Federal Representative and I assume that as such Federal Representative you desire to have the views of those agencies of the Government that have an interest in this River--I mean by that, that represent the Federal interests in it. I have noted down here those agencies: The Bureau of Reclamation; the Corps of Army Engineers; the Office of Indian Affairs; the Federal Power Commission; the U. S. Geological Survey; the Fish and Wildlife; and the Bureau of Mines.

THE CHAIRMAN: May I interrupt you right there?

COM. STONE: Yes.

THE CHAIRMAN: Your chairman has not been inactive on that matter and at the proper time I am prepared to submit to the Commission the views of all the agencies which you have mentioned with the exception of the Office of Indian Affairs.

COM. STONE: The point that I make--I don't know what you have done about it and knowing you as I do I assume you have been doing all that you can, and I am not offering this in any spirit of criticism--

THE CHAIRMAN: Go ahead.

COM. STONE: --but I am saying this: that if we want to expedite this matter we could well be working on matters of that kind because before we are through those matters will have to be considered. It seems to me that if such agencies--just as an example, the Bureau of Mines that have in mind the water supply for processing of oil shales--have certain recommendations and suggestions, the states would like to know about it, or at least when they are talking about apportioning the water. I assume that is true of the Office of Indian Affairs.

THE CHAIRMAN: Yes. That is a tough one.

COM. STONE: And I do know from actual experience that the Arkansas River Commission in Colorado, involved in that matter, have spent days on days, before the states agree on apportionment of the water, in considering the claims and views of Federal agencies.

My suggestion is, Mr. Chairman, that there is something which must be done before we get through and we are losing no time, if it is the view of the states that we do want to know something about some of these

engineering data, in getting busy on matters of that kind.

There are certain other questions which will have to be considered in making a Compact. It isn't just simply a percentage division among the states. Among them I might mention this: There is the question of the form of administration of a compact, which is no small item. And then there is the question of the storage and diversion of water in one state for use in another. And there is the allocation of benefits and charge for evaporation losses. And there is an agreement of statement of policy as to the Federal and State interests, and recently in reading the negotiations on the Colorado River Compact, I observe that the states devoted considerable time to that question.

So I submit to you, Mr. Chairman, that I think we ought to recognize with some degree of appreciation the work of a committee that we are responsible for setting up, namely, the Engineering Advisory Committee. And I think we should limit, of course, the extent to which those matters are gone into and we did limit it by setting out a definite program of what those engineers should go into. Now on your suggestion we will be repudiating the action which we have taken and be disregarding any possible help, assuming that they may not be too much help--I think it will, so far as my state is concerned we feel we do need that information--and I think since it may require only a matter of a couple of months to complete it, it would be shortsighted policy to say all we have done is wrong and just throw it to the winds.

I want to make this clear, however, that if any member of this Commission has any specific formula with respect to the apportionment of the use of water of the Colorado River together with a formula with respect to the deliveries of water at Lee Ferry, Colorado will seriously consider it and will not object to it being presented at any time. But we in Colorado are not prepared to submit a formula of our own and prefer to rely upon the efforts of a joint committee. I do also wish to point out that we do not believe that the Bureau of Reclamation report of March 5th furnishes the necessary information upon which to agree upon an apportionment of the water.

I believe you intimated that you want us to say whether or not we are willing immediately to go into a discussion of the apportionment of water and the determination of obligations at Lee Ferry and that we disregard the Engineering Advisory Committee. My answer is that Colorado prefers and would suggest that we wait another two months, estimated time to get that report, and that we are not now ready to submit any suggestion but are willing to receive any suggestion that any other Commissioner has to make. And in order to expedite the matter--and we all desire to expedite it, we are not indifferent--may I most respectfully suggest that some of these other questions be taken up soon. I believe we should have another meeting as soon as it can be arranged and that we do go into such matters as considering the claims and views of the Federal agencies, because I know that will take a considerable time and I personally, as representing Colorado, would like to know something about that before we agree on some of these other things. That is all I have to say.

THE CHAIRMAN: Thank you, Judge Stone. You have made a very frank statement. I think you are a better speaker than you are a listener, though, if you got out of what I said that apparently I was suggesting that we throw away the work of the Engineering Advisory Committee. I made no such suggestion. My statement was to this effect, that it seemed to me like it was drawn out interminably long.

will remember it now since I call it to your attention--at the time this Engineering Advisory Committee was appointed, the Chairman and I think possibly the members of the Commission, wanted to have an estimate of the time, lay out a certain amount of work that could be done within a reasonable time. At the time the Committee was appointed there was talk of 60 days, 90 days, and your chairman was probably a little insistent that the thing be definitely drawn out. Then your chairman was properly placed where he belonged by pointing out this was a very, very intricate and complex study and that the Committee certainly was appointed by the Commission and they had a right to assume that the Commission had confidence in the Committee.

Well, nobody has ever suggested that the Commission doesn't have confidence in this Committee, certainly not your chairman; but I do think and I thought then that there should be a time placed on it.

Now here we are, 10 months or 11 months, something like that, and it is months ahead. I don't know how many months ahead. Nobody has made a definite statement as to how long it will take. If that is satisfactory to the Commission, very well and good.

I have attempted to straighten that up, Judge Stone, because--

COM. STONE: I will acknowledge you did want to put a time on it and I will also acknowledge that I, and I think others, thought that was not wise because we couldn't apply the amount of work and the time it would take. But my observation has been that this Committee has not used an undue amount of time. It is either a question of us deciding we don't want all that information or allowing the comparatively small remaining time that is required to get it. I would not want to say, "Leave it indefinitely."

I spent about half a day with two of the members of this Committee recently and they indicated to me and by what they told me I was inclined to believe they were correct in their estimates--and I think it is indicated by Mr. Riter's statement this morning--they were reaching a time when they are ready to make some conclusions and would have them some time later this fall, November or I believe he said somewhere about the 1st of December.

THE CHAIRMAN: Well, Judge, would it be satisfactory to you to have Mr. Riter straighten us out on that question? If I understood him this morning, he said he would be ready to submit a report without any conclusions on the basis of the data that they had some time in November. That is my understanding. Possibly I am wrong.

Mr. Riter, will you set Judge Stone and the Chairman straight on that remark?

MR. RITER: I don't remember, Judge, what I did say. The situation is this: I am very hesitant to set a time when we are going to finish it. I promised you we would finish before January 1st, 1947. I made that promise on the assumption that all of the information contained in the document entitled, "The Colorado River," by the Department of the Interior, would be accepted as final and conclusive. Our studies with the engineering advisers have convinced me that this report is not being accepted as final and conclusive. The states feel that they want to explore beyond this report in the basic underlying assumptions of that report.

At the meeting held in July 1947 we did decide that we would compile a report, a factual report, containing the stream flow records which we extended, climatological data, maps, and determination of drainage areas; and I thought that report could be submitted in October. However, at our last

meeting held on September 2nd, the matter was again discussed and we concluded that such a report would be of no use to the Commission. The Commission is interested in the conclusions.

Now it seems as though we have moved slowly but I begin to see some daylight breaking through and I think that we are reaching a point where we can sit down and make some additional analyses. In my opinion it will be close to January 1st, 1948, before we will be in a position to submit a report to the Commission.

THE CHAIRMAN: Now, Mr. Riter, let me ask you this question: Will that report consist of simply an accumulation of data or will it also include conclusions based on the accumulation of that data?

MR. RITER: It will include the conclusions, bearing in mind the studies we are to make: Water supply from each state--that is one thing we are to determine. One phase which we haven't touched yet is the study of river and reservoir operations to determine the extent to which the Upper Basin can make use of its allocated water supply during drought cycles and still meet its compact obligation at Lee Ferry.

THE CHAIRMAN: Mr. Riter, talk a little louder and not quite so rapidly. While Miss Price is very good, I don't believe she is good enough for that.

MR. RITER: The report will be conclusive insofar as we have been assigned to make conclusive statements. Our first assignment is preparation of base maps for use by the Commission. I consider that assignment completed.

The second assignment was water supply available from each state. We are in the process of completing that assignment. That will involve, of course, the tabulation of the basic information on which our conclusions are based and we assume that the Commission will be very much interested in those basic data tabulated.

The third assignment that was given us was studies of river and reservoir operations to determine the extent to which the Upper Basin can make use of its allocated water supply during drought cycles and still meet its compact obligations at Lee Ferry. On that particular assignment we have made no studies as an Engineering Advisory Committee yet. So it is my intention to submit a report which will have conclusions on these three points January 1st, 1948.

COM. STONE: Those three categories, as I recall it, also include a study on the present uses of water within the various states?

MR. RITER: Yes, sir.

COM. STONE: And what is the status of that?

MR. RITER: That's been one of the things that has been most difficult for us to analyze. That is the thing I hoped we could lift bodily out of the Bureau's report, but we cannot do that. The states want to explore for themselves the present uses. The Committee is making an independent study of that problem.

COM. STONE: Is there a chance of your reaching conclusions on that also?

MR. RITER: Yes, sir, that would have to be reached. The present

uses are necessary to determine the contributions by states. In other words, the contributions by states--as we have the assignment--is to get the historical contributions and then correct that by present uses to get the contributions of virgin flow. So we have to determine the present uses, the present depletions, in order to arrive at that conclusion.

I am sticking my neck out to promise January 1st, 1948, but, gentlemen, it is a question of how fast and how much help and how much time you want your engineering advisers to devote to this job. We have three men working full time in the Bureau of Reclamation. I know that your representatives on that Committee have other assignments to work at besides this one. If you wish the studies expedited, my only advice to you is to assign more manpower to us.

COM. BISHOP: Mr. Riter, I would like to ask you if the Wyoming representative has held up the progress of the work in any way?

MR. RITER: I think he has carried all the assignments given him.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. STONE: May I ask a question, Mr. Chairman? Has your study of the questions assigned to you demonstrated that there was much more involved than was at first anticipated?

MR. RITER: That is correct.

COM. STONE: And isn't that largely responsible for the longer time?

MR. RITER: That is right. The big stumbling block, Judge Stone, in the first place was it took longer to extend those streamflow records than we anticipated. For example, on the San Juan, we found two independent sets of records for some of the earlier years, some by the State of Colorado and some by the State of New Mexico. We immediately appointed a bi-state committee to go into those records and they found in some cases they had to go back and reconcile original records and determine which of the two conflicting records should be used.

Then we find that there are many approaches in estimating records, which had to be examined and eliminated and the one that seemed to give most consistent answers adopted. That involved much more work than we anticipated.

COM. STONE: Have you seen any work that your Committee has done that is not in your judgment necessary for the securing of data which has a definite bearing on the allocation of water or the delivery of water at Lee Ferry?

MR. RITER: I will put it this way--I don't wish to sidestep your question--but I can see opportunities for sharp disagreement unless we do reconcile our differences on the basic data that we are to use for the basis of compact negotiations. I can conceive of a possibility that two different states, if they work independently, would come up with two different estimates of streamflow, and that would certainly in my opinion delay the ultimate negotiation of a compact. I feel by working together and working as a unit and reconciling our differences among ourselves and finally presenting figures which we all agree upon--I am talking now of figures on streamflow which we all agree upon at key gauging stations--I feel we will expedite the ultimate negotiation of the compact.

I wish to remind the Commission that this is my first experience in compact negotiations, but fortunately the representatives of the states have been through the mill before and I have been very appreciative of their advice and their guidance on these matters of getting together at the start on the basic records.

COM. STONE: One other question: On this question of basic data that you have mentioned, has that in all cases conformed with the conclusion reached in the Bureau of Reclamation report?

MR. RITER: There have been some deviations in streamflows. We have not gone far enough into the determination of present uses to know whether there will be deviations or not. I suspect that there will be some deviations--I am confident there will be some deviations in certain states on the Bureau's estimate of present uses. How serious they will be I cannot predict until we have the figures to compare.

COM. STONE: Are you working on some data which has application to a compact which is not covered by the Bureau of Reclamation report?

MR. RITER: Yes. That involves the matter of streamflow losses, that is, it is information that the Bureau of Reclamation report did not comprehend. We made no estimate of the losses between the point of use and Lee Ferry. We considered them to be negligible.

THE CHAIRMAN: Now, Mr. Riter, I would like to ask you a question: This data that you are accumulating, you have in mind a compact that would eventually allocate to each state a definite amount of water, isn't that true, in acre feet?

MR. RITER: Mr. Chairman, we don't have too good ideas what the compact is going to represent.

THE CHAIRMAN: Your studies would be prepared for that sort of negotiation, would it or would it not?

MR. RITER: They can be prepared for any type of negotiation the Commission chooses to make.

THE CHAIRMAN: Now, let's assume for a moment that the compact were negotiated on the basis of percentage of flow. It is your conclusion, I think, as I infer from your remarks, that this data that you are now collecting would be very important in setting up the safe development under the percentage allocation in the compact?

MR. RITER: The data we are collecting is to determine the contribution of streamflow from each state. Now as I envision it, that is absolutely necessary before you can use the percentage basis. However, I wish to remind the Commission that we are not studying project potentialities. We have not been instructed to study project potentialities. We did make a statement, however, that we feel that a study of project potentialities is necessary in the ultimate. Our report of August 31, 1946, which we submitted to you contains this statement:

"Potential uses of water constitute important factors in dividing available supplies among individual States, and are considered to be involved up to the 7,500,000 acre feet heretofore allocated to the Upper Basin by the Colorado River Compact."

We recognize the importance of those but we have not been instructed to make a study of project potentialities.

THE CHAIRMAN: Thank you, Mr. Riter. Does any member of the Commission have a question to ask Mr. Riter while he is here?

COM. BISHOP: I would like to ask Judge Stone if the Engineering Advisory Committee comes in with a report that there are some differences, what difference it will make in the negotiation of a compact? For instance, a difference between whether the State of Colorado contributes 65 percent or 75 percent. Judge, would you consider that that makes any difference when it comes to the allocation of water to Colorado, as to the amount that they should have?

COM. STONE: Well, I assume, Mr. Bishop, that there are several factors to be considered in any attempt to make an equitable apportionment of water and that is one factor, the weight to be placed on the factor is a question for the determination of the Commission. That is a factor. It is not the only factor. Mr. Wallace mentioned another factor this morning and that is the opportunities of use. That is another factor.

But if you will recall, Mr. Bishop, that in making the Colorado River Compact, one of the very strong positions taken by the Upper Basin States was that even though there were greater opportunities of use in the Lower Basin, you could not disregard the question of water supplies from the Upper Basin. And it is not a negligible factor, and if you are going to do it on a percentage basis, as Mr. Riter points out, it is a question that ought to be considered.

COM. BISHOP: At the same time--

COM. STONE: If we are going to change our theories and just horse trade, there aren't any of those factors that are important. You just don't consider factors. I don't believe any member of this Commission would be properly functioning if he is going to disregard all the basic data and just say it is a horse trade.

COM. BISHOP: I don't advocate disregarding the basic data and I agree that we have to use these factors in one way and another as a basis. I can't see what good these refinements are going to do us in the final determination. I am in favor of collecting them and I am in favor of the subcommittee and I would like to see them be made permanent and all that; but I can't see where these refinements are going to be a factor of the importance you seem to think it is.

COM. STONE: I don't think we are in disagreement, Bishop. I am not talking about refinements. You could have refinements that would run on forever and I am not in favor of that. It is very obvious that many studies will have to be made and will be made for years to come which have to do with definite project development. But there are certain basic data which is fundamental in its nature and, in an engineering sense, certain phases of it may be classified as refinements--I am not in favor of going to the extreme limit on that--but I don't believe that this Engineering Advisory Committee has been indulging in any studies that are not necessary to arrive at conclusions in their report to us requested of them by this Commission.

The Chairman asked him: Will these be conclusive or will it simply be a compilation of data? If it were the mere compilation of data, it wouldn't be of any benefit to us; but if we have confidence in this Committee--and I think we do--I think their conclusions will wash out a lot of questions that we might quarrel about interminably and maybe reach an impasse around this table. There isn't anything quite as healthy if we are going to work together as making joint studies. If we were to make a proposition and you were to make your own independent studies and come up and say, "We don't agree with that basic data"--that is where we disagree, that would make it difficult.

COM. BISHOP: The factor that we have talked about and is being considered is the consumptive use of water. It would probably be more equitable to divide the water on the basis of the percentage of consumptive use of water than it would on the amount of water produced by each individual state. Those two factors are far apart. Both of them are factors that should be considered. For instance, New Mexico wouldn't get any water if we put it on the basis of production, that is, a very small amount of water; and certainly they are entitled to more water than the percent that they produce.

COM. STONE: Don't misunderstand me. I am not suggesting that you base the allocation solely on the production of water--

COM. BISHOP: I know you are not but--

COM. STONE: --but I do say it is an important factor. And when you get into those questions you right immediately get into questions which can be more properly and more fully answered and with greater safety when you have some of this basic data. I am not going to be so foolish as to say that because we produce a lot of water, that is the only factor in determining Colorado's share.

THE CHAIRMAN: Mr. Watson, what do you have to say?

COM. WATSON: I fully appreciate the good work that is being done by the Engineering Advisory Committee, but I think that this Committee is considering only one or two of the basic factors that will be necessary in arriving at a compact. We are now studying contribution which is progressing satisfactorily; but the Committee still has before it one of its major problems and that is "reservoir regulation."

The study of beneficial use of water is just beginning.

THE CHAIRMAN: Mr. Watson, have you any estimate on how long it would take to do that?

COM. WATSON: I do not know, Mr. Chairman. I think it will take some time.

COM. STONE: Do you entirely disagree with Mr. Riter on his estimate on that?

COM. WATSON: I am not in a position to know definitely, but I believe it will take considerable time.

THE CHAIRMAN: Let me ask Mr. Riter that question: Will five years be sufficient for that?

MR. RITER: Five years?

THE CHAIRMAN: Yes.

MR. RITER: Mr. Bashore, I envision that we will make studies from now on as those reservoirs are built.

THE CHAIRMAN: Surely.

MR. RITER: We are still studying reservoir operation on the Colorado-Big Thompson Project which is in the process of construction.

COM. WATSON: That is one of the studies to be made by the

Engineering Advisory Committee and I take it that definite conclusions must be made by that Committee before it can make its recommendations to the Commission.

MR. RITER: I don't think that the Commission will allow us five years, however.

COM. STONE: Mr. Riter, you don't contemplate in the study the Committee is making to go into any extensive study such as Mr. Watson suggests here?

MR. RITER: The thing we had in mind is this: As I envision those studies they will be on an annual basis--they will have to be on an annual basis--and as I envision them, we will equate usable water in terms of reservoir capacity. In other words, we will determine for varying amounts of reservoir capacity the amounts of usable water we can use in the Upper Basin. Now that necessarily involves some certain legal assumptions which I think the Committee might just as well be thinking about.

It was hinted here today in Mr. Wallace's statement that reservoir losses from those main stem reservoirs might be above the 7,500,000 acre feet. My concept is that the 7,500,000 acre feet must include the reservoir losses.

MR. WALLACE: So do I.

MR. RITER: All right, we are together on that. Hence in order to use 7,500,000 acre feet if we evaporate 1,000,000 acre feet, it would mean that the actual use on the land would be only 6,500,000 acre feet. It might be that we would find from our studies that by dropping slightly below 7,500,000 acre feet we might save considerable reservoir loss.

We don't intend and we don't have to go to a complete analysis of the reservoirs. We will have to carry our studies to a point and find out where the increased evaporation losses start eating too much into usable water. We know a certain amount of storage capacity is absolutely necessary.

COM. STONE: Is that a total reservoir capacity or does it involve studies of specific reservoirs and all of the details that would go into a study of such reservoirs for construction? As I understand it, you simply take a total storage.

MR. RITER: We will have to consider the location of our storage sites and the relative efficiency or inefficiency of the reservoirs from the standpoint of evaporation.

COM. STONE: That is the general viewpoint.

THE CHAIRMAN: Mr. Watson, you didn't get a chance to finish.

COM. WATSON: I would like to say also that the question of consumptive use has not been studied to any great extent.

Added to that, there is the question of beneficial use, which is in part a question of economics. We know that there is considerable data available to assist us in determining the highest beneficial use of the water.

Now in Utah, for instance, aside from these large reservoir sites that are located on the main stem of the river, and which by the way, are the containers which will permit us to fulfill our obligation at Lee Ferry, and also to conserve our own share of the water, we know that there are valuable natural resources which will require water in the process of their development.

We think this use will be of a high order and must be considered in an equitable division of the water. We in Utah have very few projects in the Colorado River Basin that will pay out under the present reclamation law. We, therefore, must take the larger view and assume, as is the case with Colorado in its Big Thompson Project, that water must be put to a high order of beneficial use in the raising of specialty crops and in supplying municipal water to cities. Such use, I think, must be considered in making a compact.

In no allotment or apportionment of the water in the Lower Basin has water supply been considered material. Certainly if it were, neither Mexico, California, Arizona nor Nevada would have fared very well.

COM. STONE: It was the problem by which we held 7,500,000 acre feet in the Upper Basin because California claimed they had a better use of it and could do more with it economically.

COM. WATSON: Judge Stone, if we had divided the water when the Colorado River Compact was written on the basis of the then present use of the water, we would not have guaranteed 7,500,000 acre feet of water to the Lower Basin, but we considered their potential use--

COM. STONE: That was a factor, yes.

COM. WATSON: --and therefore we guaranteed the amount we did. Had we considered their then present use we would have guaranteed them only about 3,000,000 acre feet of water.

I may say also that the Colorado River is probably shrinking in size. It is well known that the curve for Great Salt Lake is downward. Whether it has reached the bottom or not, we don't know. We do know, however, that the glaciers throughout the northwest are receding at the rate of about 100 feet a year. We, therefore, may be entering a dry cycle, the bottom of which we may not have yet reached.

I am sure we will not make headway in this matter if our efforts are confined to the narrow problem of contribution.

COM. BISHOP: Mr. Watson, what is the matter with the economic studies made by the Bureau when they made the report? Wouldn't this be another refinement?

COM. WATSON: If we would adopt that report we would have that data before us. For instance, if we consider the economics of the Basin, we all know that within the Basin are the Nation's largest supplies of coal and phosphate. The processing of this phosphate, of course, will take large quantities of hydroelectric power.

COM. BISHOP: That is right, Mr. Watson; but when it comes to these refinements, they won't be so fine but what they will still need working over from year to year and so on forever. It looks to me like in view of the circumstances we ought to get together and decide on the amount of water that each state is supposed to have from this 7,500,000 acre feet that has been allocated to us by the Colorado River Compact and get in a position to receive some funds for the construction of the project at a time when same may be allotted. If we keep waiting the chances are we won't get any projects.

COM. WATSON: I agree to that, Mr. Bishop. I think we should divide the water on a percentage basis but that the studies above referred

to should go on in order that this Commission may be familiar with the facts. If we could divide the water at a reasonable earlier date, engineering and legal studies could go on and in the meantime we could all go to Congress, get our projects authorized, and go to work.

So I agree thoroughly with you that we should have relatively quick action and I do think also that the criticism made by our Chairman of our slow procedure is somewhat justified.

COM. STONE: Yes, but Mr. Watson, you say that we should divide the water; do you not consider some of these matters which you have mentioned of some bearing in dividing the water?

COM. WATSON: I do.

COM. STONE: Well, then, isn't it necessary to agree upon some basic data in order to divide the water? I don't quite follow you. You say we should divide the water and then continue the studies?

COM. WATSON: Contemporaneously.

COM. STONE: But the division of water is at least in some degree, and perhaps in an important degree, dependent upon some of this information.

COM. WATSON: That is correct.

COM. STONE: How can we divide it before we have the information?

COM. WATSON: Let me answer that question this way: This Commission is responsible for dividing the water. This Commission has authorized an engineering subcommittee to collect certain data, which is only part of the facts that must finally be considered. Therefore, if this Commission is at all remiss in its duty, it is that it isn't considering for study all the questions which it should consider. It has used one solid year in trying to solve a problem which contains only one of the basic factors to be considered.

COM. STONE: Then you are in favor of not less studies but more studies?

COM. WATSON: I am in favor of analyzing all the facts and making a division of the water as soon as we can, in order to get something going on the River. In other words, let me put it this way: Utah has come to the banquet rather late. California and Colorado came in 1933. They knew that they had feasible projects that were important to them and they had wisdom and foresight enough to go about to get them built. As an example, when Colorado got the Colorado-Big Thompson Project, Colorado was wise enough at that time to assemble engineering data to create a Conservancy District and to meet all the legal requirements that were necessary to get a project. They got the project authorized at a time when it was easy to get project authorized.

That isn't the case with Utah, Wyoming or New Mexico. We in Utah have not realized until lately that we had any large projects of the order of the Colorado-Big Thompson. We in Utah feel, too, that we must make further engineering and economic studies before we can go to Congress to ask it to pass on the feasibility of a project. We are not anxious to get ahead of Wyoming or New Mexico, but we wish to go along contemporaneously with them.

MR. GILES: Mr. Chairman, am I permitted to ask a question?

THE CHAIRMAN: Yes, Mr. Giles.

MR. GILES: In the light of this discussion between Com. Watson and Com. Stone, may I ask Mr. Riter whether or not the report that he has promised January 1st, 1948, rather conditionally--

MR. RITER: Conditionally, correct.

MR. GILES: --will reveal enough data upon which this Commission could come to an agreement on a percentage basis?

MR. RITER: You wish me to answer that?

MR. GILES: That is the question.

MR. RITER: The answer is "no" because I don't know what points the Commission is going to consider on a percentage basis.

MR. GILES: That is the reason I asked the question.

MR. RITER: I presume you wish to consider potential uses. We have not been instructed to determine potential uses.

COM. CARSON: Let me read you something. This was in the meeting, September 17th to 18th, at Santa Fe, New Mexico---

MR. RITER: Okay.

COM. CARSON: -- when this report of the Committee was received as to what could be covered. And then I interjected with this statement:

"I have one thought here. I think you have a good report, Mr. Riter. You ascertain the present use in each of these states but how about potentiality as to future use?

"MR. RITER: I think, Mr. Carson, we anticipate that in Item 2 (d) of the Engineering Committee Report. Would it be your desire we insert in Item 2 (d) the words, 'by states'?

"COM. CARSON: I would like to know just the present uses of the various states and the potential uses."

MR. RITER: May I read Item 2 (d) of our report?

COM. CARSON: "COM. BISHOP: I believe you should add 'by states'.

"THE CHAIRMAN: I am sure that was the intention."

MR. RITER: May I read Item 2 (d)? Item 2 (d) of our report is:

"Estimation of present depletions above key gauging stations based on information pertaining to present irrigated acreages shown in the Bureau of Reclamation Report dated March 1946 and unit rates of depletion now incorporated in the Bureau's report as they may be modified by subsequent studies."

COM. CARSON: I took it from this that the Committee was to estimate the potentiality as to future uses in states by tributary basins.

MR. RITER: The Committee is not working on that, Mr. Carson, and

we may have misconstrued our instruction, but we have no intention unless we get further instruction from the Commission to work on potential uses. That point was debated rather extensively when we formulated our engineering report to submit to you, and we all recognize it is an important consideration. We recognize that the only known inventory of potential uses is contained in the Bureau of Reclamation report of March 1946 on the Colorado River Basin. That report was referred to by the Engineering Advisory Committee.

COM. CARSON: I would like for you to examine that and see if that is in the opinion of your Committee sufficient for us to proceed on.

MR. RITER: Do you wish to give us that instruction? As I recall it at Farmington there was some discussion about giving us specific instructions to work on potentialities but there was no conclusion, Mr. Carson. If I have misunderstood the instructions I am awfully sorry. If we are going to have to go into potential uses--

COM. CARSON: It may be it will be that your Committee would think the Bureau's report was sufficient; but on my part, I would like some information on it.

MR. RITER: I feel myself this, Mr. Carson, that is a matter which I think each state is going to have to judge for itself. I don't believe that you would want to trust the judgment of any outsider.

COM. CARSON: But I would like for this Engineering Advisory Committee so far as possible to agree on it so we wouldn't have the argument in the Commission itself. If your Committee thinks that Bureau report is sufficient I would like for them to be able to say so.

MR. RITER: Well, we have not intended to study potentialities. We recognize it is an important factor. Now it is up to the Commission if the Commission wishes to saddle that burden on the Engineering Advisory Committee. Maybe you had better first see what we can do with our present assignment.

THE CHAIRMAN: Did you finish, Mr. Watson?

COM. WATSON: Yes.

THE CHAIRMAN: We will pass the question of that further study for the moment and come back to it later. The Chair now calls on Commissioner Carson from Arizona for any remarks he may wish to make.

COM. CARSON: Mr. Chairman, I think this Engineering Advisory Committee report is very, very important and I don't believe that we are going to be able to negotiate a compact which would be satisfactory to the various Commissioners in advance of a report by that Engineering Advisory Committee. I think it might be expedited, from what Mr. Riter said, if we would all assign somebody full time to that report. That Committee might be able to get it out in advance of January 1st, say by December 1st. I think Arizona has all of its reports worked out and in shape for that Committee, but if it would be of any help we could assign an engineer full time to Mr. Riter to try to expedite that report.

In my judgment it is very desirable that the report be obtained as soon as possible and a compact negotiated as soon as possible. I had hoped that it would be possible for that Engineering Advisory Committee to report by the 1st of December and maybe a compact be negotiated by February or March. It would be highly desirable in my opinion if it could be, and if it will help, why, we will furnish them an engineer.

This other matter that you have taken up with these various Federal agencies, if there could be a meeting of this Commission to consider them about the time or a few days in advance of the receipt of the engineering report, I think that would be very desirable.

The Legal Advisory Committee was appointed, of which I happen to be Chairman. We haven't done a great deal. I wrote out a rough form to suggest questions to everybody's mind and sent it to them last January. I haven't had any reply from the Chairman or any of the members of the Legal Advisory Committee except one. But they could meet and get busy at any time the Commission direct.

So we haven't any thought except that it is for everybody's interest to expedite the Compact as much as possible and that nothing can be gained by trying to negotiate a compact in advance of the Engineering Advisory Committee report.

THE CHAIRMAN: Thank you, Mr. Carson. We will now call on the Commissioner from New Mexico.

COM. WILSON: Commission Chairman, when I first came to this meeting, which is essentially a meeting called by Governor Hunt for the governors, I was under the very definite impression that in view of what had transpired at our previous meeting of the Commission, there was little that could be done by this Commission until the coming in of the report of the engineers. I felt then that the Commission having decided on this program, we had to go down the line on that sort of program.

Now it has been suggested by Mr. Bishop and also by Mr. Watson that perhaps these engineering studies were unnecessary in order to arrive at an allocation of the water among the states. They both agree that the engineering reports are important and will have to be continued, especially when it comes to the administering of a compact that may be negotiated. I can see that that is true. It seems to me that we can't hope to arrive at a permanent compact allocating the waters on a permanent basis among the states and provide for its administration until we have a great deal more engineering data than the engineers state they have arrived at at the present time. So as I see it, everybody is agreed that this engineering data is necessary ultimately and before there can be an ultimate allocation of the water.

The only alternate I can see is the suggestion that has been made by Mr. Bishop and also by Mr. Watson, I believe, that there can be a division made on a percentage basis without waiting for the engineers to complete their studies. Now so far as you all know, there has been no official suggestion along that line so far as this Commission is concerned. No member from any state has offered anything for the consideration of the other Commissioners for an allocation, either temporary or permanent, on a percentage basis. Until that is done I think it might be inappropriate to discuss an allocation on a percentage basis, but I would like to know if discussions of that kind can be entered into without the benefit of the engineering studies that are now in progress. It has been intimated that that could be done. It may be that some member of the Commission can submit an offer or a proposal that will enable us to know whether it can be done without additional information and data.

I was impressed by the answer Mr. Riter made to the question that was asked and he states that the engineers at the present time are making no studies of potential uses; and in his answer he seemed to assume, which seems obvious, that that is necessary before you can divide or allocate water even on a percentage basis.

I will say from the standpoint of New Mexico I had hoped that when the report came in it would furnish some fundamental data upon which I as one member of the Commission could study and have it explained to me, that would enable me to see some of the basic factors upon which an allocation is to be made. If the engineering report doesn't do that up to the present time, we have got to get those fundamental data and facts before we can proceed on any basis.

I might say here that most of you who have attended meetings of the Committee of Fourteen and Committee of Sixteen, now the Colorado River Basin States Committee, know that New Mexico in the past has always taken the position that there has not been an exhaustive survey made of the potential possibilities for use of the Colorado River water in New Mexico; and we have never been willing to accept the report of the Bureau of Reclamation as being the last word on that subject, although we have at all times considered this report as a very splendid piece of work and as very valuable to the states.

Any compact that may be suggested by this Commission on a percentage basis or any other basis obviously will have to be taken back by each Commissioner to his state and to his legislature and explained to the people there. Frankly, I wouldn't know how to attempt to explain to my legislature a compact allocating the water on a percentage basis or any other basis unless I could bring in the engineering support and the engineering data to convince them there was some reason and some basis for it.

I don't know whether I have got any answer to the problem that seems to be confronting the Commission. It seems to me that we should avail ourselves of the studies that the engineers have already made and perhaps permit them to complete the phase they have started on and report and then determine how far we can get. And if at that time someone wants to submit an offer or proposal for study on a percentage basis or on a partial allocation I think this Commission can take that up and during next year we should arrive at either a partial or a permanent allocation of the water.

COM. WATSON: Mr. Chairman--are you through?

COM. WILSON: Yes.

THE CHAIRMAN: Thank you, Com. Wilson.

COM. WATSON: Inasmuch as potential uses on the River seem to be very important, and inasmuch as the Engineering Advisory Committee has not been authorized to make these studies, I think we should either authorize them or set up another Committee to get this information. I am willing to make a motion to that effect, namely, that the potential beneficial uses of the water of the Colorado River should receive consideration.

THE CHAIRMAN: Well, the Chairman will call for that motion a little later, but I would like to have an explanation of a remark made by Com. Stone and Com. Wilson in regard to the Compact taking into consideration the administration of the River. Certainly I must misunderstand the intention of those remarks because I don't believe that we could write into a compact how we would administer this River. You didn't intend that, did you, Judge Stone?

COM. STONE: Mr. Chairman, I have never yet seen a compact that didn't have a clause setting up an administration under the compact.

THE CHAIRMAN: Well, possibly so. If that is what you meant, very well. But I thought you meant to work out an administrative procedure for operating reservoirs--you didn't mean that?

COM. STONE: That isn't what I was talking about. A compact should make some provision for administering the river in accordance with the terms of the compact.

THE CHAIRMAN: There is no such provision in the Colorado River Compact.

COM. STONE: Because the Colorado River Compact never divided the water among the states; it simply made a division between two basins. And you can go through all the recent compacts that I am familiar with and if you find one of them that hasn't got a clause for the administration of the compact, I have overlooked something. I think that that is a very necessary provision, and one that could well be discussed to avoid trouble and to see that the terms of the compact are carried out. I haven't any suggestions to make at this time but it is a thing which will require time for discussion.

THE CHAIRMAN: Isn't that something that could be done while this Engineering Advisory Committee is at work?

COM. STONE: That is just what I suggested to you, Mr. Chairman.

THE CHAIRMAN: Yes. Then there is another question that occurred to me and that is the use of these engineering studies in setting up the safe projects, as mentioned by Mr. Wallace this morning, after the Compact is negotiated. Certainly they will be necessary at that time. And the Chairman would like to know why negotiations and discussions cannot be started at this time for the allocation of these waters on a percentage basis. There may be very good reasons why you cannot but if there are, why, let's lay them out on the table.

As I see it, there will be questions of supply and use and all that come up. The states all have data on these projects--the Bureau of Reclamation has data--and as these discussions develop, that data will be brought forth and used and it may be argued about, but I think you can come to some conclusion on it.

Now then, Com. Watson, if you wish to submit a motion the Chair will entertain the motion.

COM. WATSON: I move that potential beneficial use, as applied to the Colorado River Basin, be considered as one of the factors to be studied by the Engineering Advisory Committee.

COM. STONE: May I ask a question? Is not your motion too limited? You don't mean to limit it to potential beneficial use, do you--that is, from your statement I assume that you don't. Isn't it potential development in each state? There are certain uses that are not consumptive use. In other words, I am not quarreling with your motion, I think you are right that that is a factor that ought to be considered; but I am wondering if you aren't limiting your motion too much when you talk about "potential beneficial use."

COM. WATSON: I believe "potential beneficial use" as applied to the economic development of the Basin should be considered by the Engineering Advisory Committee.

COM. BISHOP: Mr. Chairman, I am in favor of considering that factor but I am not in favor of setting up any further committee.

COM. STONE: He didn't move setting up a committee.

THE CHAIRMAN: Let's keep order. Do I hear a second to the motion? Then it is open for discussion.

COM. STONE: I am in favor of it--I think Mr. Watson is correct in saying that that is a factor--

THE CHAIRMAN: Do you submit an amendment to the motion?

COM. STONE: Well, wait a minute--

THE CHAIRMAN: Let's get it straight here for the record. I know we can all discuss it when we get it on the table in the proper form.

COM. STONE: Go ahead.

THE CHAIRMAN: Let's find out if we have a second or an amendment.

COM. STONE: I am not submitting an amendment now and I am not submitting a second. I am in favor of the idea but I am questioning the wording of his motion, Mr. Chairman.

COM. WATSON: Judge, since you are more adept in stating such a motion than I, maybe with your knowledge of the law you could help me out.

COM. STONE: It is not a legal matter and I am not proficient in that; but I am wondering if your motion does accomplish what you want to accomplish. In other words--

THE CHAIRMAN: Miss Price, off the record.

(Discussion off the record.)

COM. WATSON: This Commission has tied its hands by authorizing the Engineering Advisory Committee to do only certain work. All these other factors that are important for us to consider have been left out. I think that potential development should receive consideration whether through the Engineering Advisory Committee or otherwise, and that we should use that as one of the factors in dividing the water on a percentage basis.

THE CHAIRMAN: I am wondering how this would do: You have the report of the Bureau of Reclamation on the Colorado River which sets forth certain things, and each state certainly must know its potentialities. Why can't each state take it upon itself to get the answer to the potentialities within its own boundaries and check against the data of the Bureau of Reclamation report if it so chooses? I leave that question with you.

COM. STONE: Isn't it a fact that the potentialities are far and away beyond the water supply?

THE CHAIRMAN: Why certainly, Com. Stone. That is very true. But somebody is going to have to get down to it some time in the future. I don't know that it is absolutely essential right now but if the Commissioners feel so, why not each state take up its own potentialities and say, "Here's our thought on this matter. Here are the actual low-down, grass-roots possibilities in our state." That certainly seems to me to be an expeditious way.

COM. STONE: I want to say I fully appreciate the thing that Mr. Riter mentions. There are a lot of considerations in making a report on that beyond engineering, some discretion and judgment on the part of the states, their ideas about it.

THE CHAIRMAN: The states should take that responsibility right now, Com. Stone, in my opinion, because ultimately they are going to have to take this water that is allocated to them and divide it among the people in that state or the tributaries in that state, and why not take that right now? You would be in a better position to handle the question when it is squarely facing you as it ultimately will.

COM. WILSON: I want to say, Mr. Chairman, that I think I can see Mr. Riter's viewpoint. I doubt the wisdom of having this Committee, especially the Bureau of Reclamation, make any further effort to develop other potentialities. I think they made a reasonably broad study and search and have put down in the report what they deem to be the potential projects and it probably would be unfair to impose upon this present committee the duty of going back into that for all the states or any one state. Of course, if Mr. Bishop is satisfied that that report contains all the potentialities for Wyoming--

COM. BISHOP: I will accept the report for what is in it.

COM. WILSON: I beg your pardon. I thought a minute ago you said you were willing to stand by the report.

COM. BISHOP: I am willing to use it as a basis. Our report shows that we are not entirely satisfied with the Bureau's report and when you consider that they spent only 3 percent of the money in Wyoming, you can see the reason why.

COM. WILSON: Obviously this Committee should not be assigned the duty of going into each state and developing potential projects other than those outlined in the report. How we can do that I am not prepared to say. I assume if we should develop a project that is potential in one sense of the word we might request the Bureau then to make a further investigation of that particular project to determine whether it is potential in the sense that we can ask authorization of Congress to construct it.

The point I am getting at is I don't want to be bound by a definition of potentialities that have to be the basis for an allocation on a percentage basis and be limited by what the Bureau has already determined can be feasibly constructed; and one way or another I expect New Mexico to come before this Commission with a statement as to what we deem our potential uses to be and we hope to have other members of the Commission agree with us. But we have got to get that figure and if it takes other engineering study we might have to call on this Committee to assist.

While I am speaking there is one other thing that has been mentioned here that I think is important and that is we get the attitude of these Federal agencies that have been mentioned, I might say especially the Indian Bureau, because I don't believe we can agree to any allocation unless we know what the Indian Bureau is planning. I certainly wouldn't want to agree to an allocation on a percentage basis or otherwise until I have a better idea of what their position is.

COM. STONE: I feel that way about it. I think we could do more right now to make progress if we would set up some program to begin to get the views of these Federal agencies. It is going to take time. If we are all interested in making progress, why not get at something that we can do now and which must be done ultimately before we reach a compact?

THE CHAIRMAN: Com. Stone, in regard to that, I took this matter up last fall when I thought we were going to have a compact by the 1st of

February; and I have the views of all the agencies you have mentioned and one or two more with the exception of the Bureau of Indian Affairs, and perhaps we can get that. I don't know. That's the most difficult problem we have with all the Federal agencies.

COM. STONE: Mr. Chairman, may I ask is it your plan to present those views in writing to the Commission or are you calling before the Commission representatives of those agencies?

THE CHAIRMAN: I have gotten written statements from all of them with the exception of the Bureau of Indian Affairs.

COM. STONE: And you don't plan to have representatives appear?

THE CHAIRMAN: I think probably the Bureau of Indian Affairs will have to appear but I don't plan to have the others.

COM. STONE: Do you have the Bureau of Mines?

THE CHAIRMAN: I have the Interior Department as a whole, which covers all of the agencies in the Interior Department.

COM. STONE: Could we not have a meeting at a rather early date to listen to those statements if they are in statement form, or to the representatives if representatives appear for any one of them?

THE CHAIRMAN: If the Commission so wishes it. If you think that will expedite the matter at all we certainly can do it. But I would like to see something further than just listening to the statements of these various Government agencies.

COM. STONE: There will have to be something further but it will aid us to do something further if we get that before us. I would like to know for Colorado what the situation is as to the Indians, as to the Federal Power Commission; and I assume that their statements may raise some questions of policy with respect to important matters such as the claim of the Indians and whose water that is to come out of and things like that, and that will require considerable discussion.

THE CHAIRMAN: Yes, as I mentioned, the Indian question is the toughest one as I see it so far as the interests of any Federal Department are concerned. I don't think you will have any difficulty with the others. Of course, you know how the Indian question was handled in the Colorado River Compact.

COM. STONE: Yes.

COM. BISHOP: It seems to me that the same wording in this compact handles it just exactly the same way as it did there and I can't see any better way of handling it. Use the same wording and go on and say if the Indians want more than the water allotted, the obligation is to be divided among the states in proportion to the allocations received by the states.

COM. STONE: You are presenting a formula which requires discussion. Maybe some of these states don't want to agree to that sort of formula. That is what I mean by saying that there are questions such as the one you suggest right now that we could be working on if we had the statement of the Indian Bureau before us.

THE CHAIRMAN: Well, Com. Carson, do you want to say anything on that question?

COM. CARSON: I was going to ask you, Mr. Chairman, would it be possible to make copies of those written statements which you have received from the various Federal Departments and send one to each of the Commissioners?

THE CHAIRMAN: The Chairman would be delighted to do that except the Chairman has not employed a stenographer and I am not going to copy them in longhand.

COM. CARSON: Could you send them to the Secretary and he have them done?

THE CHAIRMAN: Yes, I think that can be done.

COM. CARSON: I think that would save us considerable travel if we could have them long enough to go over them before we do meet again.

THE CHAIRMAN: I don't know that that is altogether satisfactory. I would like to know if you want to have another meeting and when and what you want to consider at that meeting before we get into the details of how to handle that. If you want to have another meeting, all right.

COM. CARSON: I want to keep on meeting and expedite it as much as possible.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. CARSON: I move that the Chairman send to the Secretary copies of all written recommendations he may have from any Federal Departments so that they may be copied and sent to each Commissioner within two weeks from this date; and that each state study the potential uses of that state as stated in the Comprehensive Report of the Bureau of Reclamation in order that they may be discussed at the next meeting; and that the engineers be requested to report on all basic data and conclusions reached so far as they have been able to go to this Commission, at a meeting to be held in Santa Fe, New Mexico instead of at Denver, Colorado, on the first Monday in December.

COM. WATSON: Second the motion.

THE CHAIRMAN: Off the Record.

(Discussion off the record.)

THE CHAIRMAN: Is there any discussion of the motion? (No response.) (Thereupon a vote was taken and the motion of Com. Carson carried unanimously.)

COM. STONE: May I ask a question? I suppose you meant, Mr. Carson, with respect to the potentialities--you say on the basis of that report--

COM. WILSON: He said study on the basis of the report.

COM. STONE: --but each state would be free to present its own conclusions?

COM. CARSON: Yes, for discussion at the next meeting.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. BISHOP: I think we are overlooking something important. This is the first Commission I have been on when we didn't submit a draft of a compact within a few meetings. At the last meeting I believe the Legal Advisory Committee was set up to submit an outline or a draft. Mr. O'Marr gave me a copy of it and asked me to work it over and I did that and I have an outline of a draft here that I would like to submit to the Committee for consideration. I think at the next meeting we should go into the detail and start off to approve it paragraph by paragraph. When we get up to the point of the division of the water, it may take some time to get together on that.

COM. WILSON: You have mimeographed copies made of that, Mr. Bishop?

COM. BISHOP: No, I don't.

COM. WILSON: Do you want to give that to the Secretary and have him send copies out?

COM. BISHOP: That is all right. I would be glad to do that.

COM. WILSON: I think the Commission should consider the proposed draft of any compact submitted by any member, so I will second it.

COM. STONE: Does that cover the whole job?

COM. BISHOP: Yes, it does. I have even got Colorado's allotment in here, Judge. (Laughter.)

COM. STONE: I think our motion is premature. Mr. Bishop has got it all settled.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

COM. BISHOP: I will gladly mimeograph it and send copies to members including a dozen extra to Mr. Carson, or whatever you want.

THE CHAIRMAN: Do you have any objection?

COM. STONE: I think that is wise to send it out, submit anything he has.

THE CHAIRMAN: Off the record.

(Discussion off the record.)

THE CHAIRMAN: Is your offer on the record, Charlie?

COM. CARSON: Arizona will furnish an engineer to work full time with Mr. Riter.

THE CHAIRMAN: What will Utah do to expedite this work?

COM. WATSON: The State of Utah will use its best efforts to furnish an engineer full time for this work.

THE CHAIRMAN: And Wyoming?

COM. BISHOP: I don't want to promise something I can't fulfill. I am sure we couldn't get an engineer and we don't have funds to pay one with if we did. This 3 percent, you know, we get out of the Development Fund, we would hardly rate an engineer anyway.

THE CHAIRMAN: Com. Stone, do you want to say anything on that as to what Colorado will attempt to do?

COM. STONE: First I would like to point out what we have been doing.

THE CHAIRMAN: We will recognize that Colorado is working very assiduously and faithfully but we would like to have more.

COM. STONE: We have had a total of six engineers, all of whom have been giving perhaps half of their time. I want to say that for the past several months we have been attempting to hire two more engineers and if we can hire them, we shall be glad to add some more help.

I think it should be recognized that Colorado has been carrying a pretty large part of this. We have devoted many man hours to this task. I think I can say safely, counting Frank Merriell, who is engineer for the Colorado River Water Conservation District Board, we have been contributing probably a great deal more than any other state. I don't say that in a bragging way but I think the record ought to be clear. We are willing to do more if we can hire the men, and I don't want to be held, Mr. Chairman, to keep a promise that we can hire men. We will do the very best we can and have been doing it.

THE CHAIRMAN: That is very good, Com. Stone. Let's see--New Mexico.

COM. WILSON: Mr. Bliss, the State Engineer, is here and I would rather he would state what he feels he can do or can't do. Of course, in New Mexico we have not only the Colorado River to deal with, but a compact on the Rio Grande and a compact on the Pecos and some little studies on the Canadian. I don't know what Mr. Bliss's situation is with reference to other engineers. Will you state, John?

MR. BLISS: Mr. Chairman, we have one engineer who at present is spending full time trying to get out a Pecos River Compact report which has been promised for the 15th of October. I don't foresee that when the report is brought out on or about that date that will be the end of his work on the Pecos. We have no one right now who is qualified to do original work on the Colorado River Compact except Mr. Erickson. But if we can get someone--I am more or less in the position of Colorado--if we can get someone I will be glad to assign them full time to this work.

COM. STONE: I would like to add that Colorado is in the same position as New Mexico. We are currently engaged in the Arkansas River Compact, and obviously some of the time of our engineers has to be devoted to that compact besides other work which has to be done for the Water Board.

COM. WATSON: Mr. Chairman, I will add that if Mr. Riter can employ some engineer that is satisfactory to him to assist for three months in making this report, Utah will pay his salary.

MR. RITER: I guess that could apply to a Bureau engineer. We

have a limit to the money we can spend on it. We might be able to assign one man on that basis.

COM. WATSON: You bill us and we will pay his salary.

THE CHAIRMAN: Of course the Chairman recognizes the difficulties in employing men who are competent to do these things; but it seems to me that we all get quite ambitious as to what we think we have to have in order to work out this compact and then when we come to the question of how we are going to get it, we are not so confident. That seems to be one of our most serious difficulties.

I would like to call the Commission's attention to the fact that at the meeting at Santa Fe on September 18, 1946, it was decided to hold the next regular meeting at Denver. Now does the Commission wish to take any action to clear that motion from the record?

COM. STONE: I had forgotten about that.

COM. CARSON: I had too.

COM. STONE: That was the action of the Commission that the next meeting would be held in Denver. But so far as Colorado is concerned, we are not going to insist on that. If the members prefer to meet at Santa Fe, we will certainly conform to the desires of the majority of the members of this Commission.

THE CHAIRMAN: I think we should take some action to straighten that matter out. Off the record.

(Discussion off the record and "instead of Denver, Colorado" inserted in Com. Carson's motion.)

MR. RITER: Mr. Chairman, I sincerely desire to thank Mr. Carson for his offer to make an engineer available and I sincerely thank the Commissioners of the other states for their offers and I assure you we will do everything within our power to comply with the wish of the Commission on completing this report.

THE CHAIRMAN: Is there any further business to come before this Commission?

COM. STONE: Mr. Chairman, it was intimated today I think more than one time that some other states, particularly Utah, maybe others, had some definite compact or proposal, formula, for submission; and I should like to inquire whether there are any other states which wish to follow Mr. Bishop's action and are ready in the interim to submit anything for review and study of the other members of the Commission.

THE CHAIRMAN: What do I hear from the members of the Commission?

COM. WATSON: We have no compact written up.

THE CHAIRMAN: Well, I might ask another question: Does any state Commissioner have in mind a percentage allocation which might apply to the interested states? (No response.) Apparently no one is ready to express his views on a percentage allocation at this time. Is there any further business to come before the Commission?

COM. STONE: May I have just a minute?

THE CHAIRMAN: All right, Judge.

(Com. Stone confers.)

THE CHAIRMAN: Anything further, Judge?

COM. STONE: No.

THE CHAIRMAN: Motion for adjournment is in order.

COM. BISHOP: I move we adjourn.

COM. STONE: Second the motion.

THE CHAIRMAN: Judge Stone seconds the motion. (Thereupon a vote was taken and the motion of Com. Bishop carried unanimously.)

THE CHAIRMAN: We will now adjourn.

(5:30 p.m., Monday, September 8, 1947.)

UPPER COLORADO RIVER BASIN COMPACT COMMISSION

OFFICIAL RECORD OF MEETING NO. 5

December 1, 2, 3 and 4, 1947

** NOTE **

Meeting No. 5 of the Upper Colorado River Basin Compact Commission was scheduled to be held in Santa Fe, New Mexico. Accommodations for the meeting were unavailable for the dates intended, and Meeting No. 5 was transferred to Denver, Colorado.)

Shirley-Savoy Hotel
Denver, Colorado

MEETING NO. 5
Denver, Colorado
(Transferred from Santa Fe, N. M.)

December 1, 2, 3 and 4, 1947

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APPEARANCES
UPPER COLORADO RIVER BASIN COMPACT COMMISSION

HARRY W. BASHORE, CHAIRMAN
Federal Representative
Mitchell, Nebraska

GROVER A. GILES, SECRETARY
Attorney General of Utah
Salt Lake City, Utah

COMMISSIONER FOR THE STATE OF ARIZONA:

Charles A. Carson Special Attorney for Arizona, 419 Title & Trust
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COMMISSIONER FOR THE STATE OF COLORADO:

Clifford H. Stone Director, Colorado Water Conservation Board,
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COMMISSIONER FOR THE STATE OF NEW MEXICO:

Fred E. Wilson 806 First National Bank Building,
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COMMISSIONER FOR THE STATE OF UTAH:

Edward H. Watson State Engineer, State Capitol,
Salt Lake City, Utah.

COMMISSION FOR THE STATE OF WYOMING:

L. C. Bishop State Engineer, Cheyenne, Wyoming.

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ARIZONA:

R. Gail Baker	State Reclamation Engineer, Phoenix, Arizona.
Nellie T. Bush	Secretary, Colorado River Commission of Arizona, Parker, Arizona.
J. E. Bush	Parker, Arizona.
Ben Avery	Reporter, ARIZONA REPUBLIC, Phoenix, Arizona.

COLORADO:

H. Lawrence Hinkley	Attorney General of Colorado, Denver, Colorado.
Chas. L. Patterson	Chief Engineer, Colorado Water Conservation Board, Denver, Colorado.
Jean S. Breitenstein	Attorney for the Colorado Water Conservation Board, Denver, Colorado.
Frank C. Merriell	Colorado River Water Conservation Board Grand Junction, Colorado.
August P. Gumlick	Chairman of the Denver Water Board, Denver, Colorado.
Glenn G. Saunders	Attorney for the Denver Water Board, Denver, Colorado.
L. Ward Bannister	Colorado Water Board, Denver, Colorado.
Charles J. Beise	Attorney, Southeastern Colorado Water Users Ass'n., First Nat'l. Bank Bldg., Denver, Colorado.
A. W. McHendrie	Attorney, Arkansas Valley Ditch Ass'n., Pueblo, Colorado.
H. I. Potts	Engineer, Denver Water Board, Denver, Colorado.
Dan B. Hunter	Colorado Water Board, Dove Creek, Colorado.
R. J. Steinbruner	Reporter, DENVER POST, Denver, Colorado.
Richard K. O'Malley	Reporter, ASSOCIATED PRESS, Denver, Colorado.
Jim Tirone	Reporter, UNITED PRESS, Denver, Colorado.

NEW MEXICO:

John H. Bliss

State Engineer, Capitol Building,
Santa Fe, New Mexico.

M. A. Threet

Special Assistant Attorney General and Legal Ad-
viser to Members of the Commission,
Albuquerque, New Mexico.

I. J. Coury

Member of the New Mexico Interstate Stream Com-
mission, Farmington, New Mexico.UTAH:

Wm. R. Wallace

Chairman, Utah Water and Power Board,
Salt Lake City, Utah.

C. O. Roskelley

State Engineer's Office, Salt Lake City, Utah.

Thomas W. Jensen

Utah Water and Power Board, Mt. Pleasant, Utah.

Edward W. Clyde

Special Assistant Attorney General,
Salt Lake City, Utah.

J. A. Howell

Attorney, Ogden, Utah.

G. E. Untermann

Echo Park Dam Committee, Vernal, Utah.

WYOMING:

Norman B. Gray

Attorney General of Wyoming, Cheyenne, Wyoming.

H. T. Person

Consulting Engineer, Laramie, Wyoming.

H. Melvin Rollins

Assist. Interstate Streams Commissioner,
Cheyenne, Wyoming.

Ernest B. Hitchcock

Assist. Commissioner on Upper Colo. River Basin
Compact Commission; Green River Basin Develop-
ment Company, Rock Springs, Wyoming.

David P. Miller

Assist. Commissioner on Upper Colo. River Basin
Compact Commission; Green River Basin Develop-
ment Company, Rock Springs, Wyoming.

Norman W. Barlow

Assist. Commissioner on Upper Colo. River Basin
Compact Commission, Cora, Wyoming.

Joe L. Budd

Assist. Commissioner on Upper Colo. River Basin
Compact Commission, Big Piney, Wyoming.BUREAU OF RECLAMATION:

J. G. Will

Assistant Chief Counsel,
Washington, D. C.

E. O. Larson

Regional Director Region 4,
Salt Lake City, Utah.

J. A. Keimig

Planning Engineer Region 7,
Denver, Colorado.

John R. Riter

Chief, Hydrology Division,
Denver, Colorado.

H. P. Dugan

Engineer, Hydrology Division,
Denver, Colorado.UNITED STATES GEOLOGICAL SURVEY:

M. T. Wilson

District Engineer,
Salt Lake City, Utah.

PROCEEDINGS

The meeting was called to order by Chairman Bashore at ten o'clock a.m., Monday, December 1, 1947, in the Centennial Room of the Shirley-Savoy Hotel, Denver, Colorado.

THE CHAIRMAN: I notice that all members of the Commission are present and the meeting will now come to order.

Gentlemen, at the last meeting of the Commission in Cheyenne, you indicated that certain matters were to be considered at the next meeting, which was to be held in Santa Fe but arrangements had to be made for holding the meeting here in Denver. Consequently the things that are to be considered at this meeting are:

First, the report of the Engineering Advisory Committee. This Engineering Advisory Committee was appointed on July 31, 1946, at Salt Lake City to get together and analyze data in order that the Commission might properly negotiate a compact. This Engineering Advisory Committee went to work and outlined a program of studies and later reported to the Commission in some detail as to the program which the Committee proposed to undertake. The Commission approved the program of the Engineering Advisory Committee and at your last meeting in Cheyenne, you decided that you wanted a report from that Committee today.

Now there are other matters to be considered by the Commission at this meeting.

No. 2 might be a report of the Legal Advisory Committee, which was appointed by the Commission to make a study of the basic structure of the compact.

Then under No. 3 would come the matter of considering the position of the various departments of the Federal Government, which have been expressed in writing to your Chairman. At the last meeting the Commission requested that the Chairman furnish copies of such communications to the members of the Commission in order that the members might have time to consider these communications from the Federal departments and have some questions or ideas to express at this meeting and possibly might wish to have further information for a clarification as to the position of the various departments of the Federal Government, which your Chairman represents.

Those are matters to come before the Denver meeting of the Commission. I believe this is Meeting No. 5 and unless there is an objection we will so designate it as Meeting No. 5.

The Chairman of the Engineering Advisory Committee is Mr. J. R. Riter of the Bureau of Reclamation and unless there is objection, the Commission would now like to have the report of the Chairman of the Engineering Advisory Committee. Mr. Riter.

(Mr. Riter distributes to members of Commission, "December 1, 1947 Progress Report, Engineering Advisory Committee to Upper Colorado River Basin Compact Commission," consisting of 61 pages and 30 pages of tables.)

THE CHAIRMAN: Gentlemen, the Chairman of the Engineering Advisory Committee has submitted his report in writing. He has furnished each member of the Commission a copy of the report. The report consists of a document about an inch thick with charts, graphs, maps, and tables.

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MR. RITER: Mr. Chairman, I have supplied a copy of the report to each member of the Commission and also supplied additional copies with the intention that they would be supplied to the Engineering Advisory Committee. If the Commission desires we could arrange to prepare a few additional copies of this report.

I have attempted to summarize the report in a 3-page letter which I have bound to the first part of the report and then a table. If it is agreeable with you I would like to read the letter. I think it summarizes the work that we have done. The remaining portions of the report are details and tabulations. Whatever your pleasure is--

THE CHAIRMAN: Mr. Riter, the Chairman will rule that we would like to hear the summary of the report if you will read it.

MR. RITER: All right.

"Denver, Colorado, December 1, 1947

Upper Colorado River Basin Compact Commission:

Gentlemen:

Pursuant to instructions given at your September 8, 1947 meeting, a report on the activities of your Engineering Advisory Committee has been prepared and is enclosed herewith. Studies proposed by the Committee in their report of August 31, 1946 which were approved by action of the Commission at the Santa Fe meeting on September 17, 1946, involve: the preparation of base maps to show the locations of present and potential irrigation developments within the Colorado River Basin and stream gaging stations and drainage areas upstream from Lee Ferry; water contributions by states, involving the tabulation of streamflow records at key gaging stations, the extension of records by estimates, estimation of runoff from unmeasured areas, estimation of present depletions above key gaging stations, state lines and Lee Ferry and estimation of channel losses along the main Colorado River and principal tributaries above Lee Ferry; and studies of river and reservoir operation to determine the extent to which the Upper Basin can make use of its allocated water supply during drought cycles and still meet its compact obligation at Lee Ferry.

While the Committee made considerable progress toward completion of the work assigned to them, we did not complete our assignment. The transmitted report is a progress report and sets forth, in detail, the work completed to date and the present status of the remaining uncompleted assignments. The present status of the assigned tasks are briefly summarized in this letter.

Maps.

The transmitted report contains copies of the state maps of Arizona, Colorado, New Mexico, Utah, and Wyoming; from the 1946 report of the Bureau of Reclamation showing the locations of present and potential irrigation projects within the Colorado River Basin. The report contains a general map, prepared by the Colorado Water Conservation Board showing the locations of key gaging stations and drainage areas for various portions of the Upper Colorado River Basin.

Drainage Areas.

Conflicting published figures on drainage areas above gaging stations were resolved by measuring from the best available maps of the area. The report contains a tabulation (page 45) showing by states the drainage areas above key gaging stations and the drainage areas of ungaged runoff between key gaging stations and state lines. The total drainage area above the Lee Ferry Compact Station was measured as 108,989 square miles.

Historic Streamflows.

The period 1914 to 1945, inclusive, was adopted as the study period. Historic streamflows at key gaging stations were compiled, and extended by estimates. A brief description of the methods used in estimating each of the streamflow records and tables showing monthly and annual discharges at the key gaging stations are presented in the report. Average annual historic runoff at the selected key gaging stations for the study period, 1914 to 1945, inclusive, are summarized in the attached table. In the course of the study, it was decided not to extend the records at a few of the stations listed in the committee report of August 31, 1946. On the other hand, it was found necessary for purposes of estimating to compile the discharges at a few other stations not listed in the August 1946 report.

Runoff from Ungaged Drainage Areas.

Study has been made of the net inflow between key gaging stations on the Colorado River and tributaries and various methods of estimating channel losses have been investigated. After the Committee decides on appropriate values for channel losses, it will be possible to estimate the runoff from the ungaged drainage areas by adding to the net inflow between gaging stations the estimated channel losses. Rates of runoff per square mile estimated by this method will be compared with estimates by other methods.

Channel Losses.

Study has been made of channel losses between the Lees Ferry gaging station and the combined flows of Colorado River at Cisco, Utah; Green River at Green River, Utah; and San Juan at Bluff, Utah, by comparing the concurrent daily records at the indicated gaging stations with due allowance for travel time between the upstream gagings at Lees Ferry and inflow from seeps, springs, and tributaries as determined from short-time records and miscellaneous measurements made by the Geological Survey. The channel losses were also estimated by measuring from the available maps the water areas of the channel and the areas of water consuming vegetation along the channel and application of appropriate unit rates of evaporation and stream depletion. Similar studies are being made for the San Juan between Rosa and Bluff and for the Colorado River above Cisco, Utah and the Green River above Green River, Utah. Channel losses were found necessary in the depletion studies hence the Committee deemed it advisable to study losses on the tributaries in addition to the main streams listed in the report of August 31, 1946. The Committee has not adopted figures to represent an estimate of channel losses.

Streamflow Depletions.

It was previously believed that the Bureau of Reclamation Report on the Colorado River of March 1946 could be used in the determination of streamflow depletions by states and above Lee Ferry. Rates per acre

used in the report were computed by the Lowry-Johnson method which involves examination of daily climatological data to determine total day degree of heat units during the growing season. The Committee found it desirable to determine unit rates of stream depletion at many more sites than were used in the Bureau of Reclamation Report and computed for the time period 1914-45 instead of 1931-40. The Committee believed that the Lowry-Johnson method should not be used since it is too cumbersome. A study was made of basic data underlying the Lowry-Johnson method, and a relationship prepared between stream depletion and mean temperatures for the period, April to September, inclusive. Consultation services of Mr. H. F. Blaney, eminent authority on consumptive use with the Department of Agriculture, have been, and are being utilized to determine unit rates of depletion for application at the site of use.

The Committee believes that water withheld upstream from Lee Ferry would cause a reduction in loss in conveyance from the site of use to Lee Ferry, and that the resultant reduction in channel loss constitutes a salvage as compared with original conditions of flow and, therefore, can be credited against depletion at sites of use. The Committee has set about to determine the portion of the area now irrigated which was naturally irrigated from the stream prior to irrigation by man and upon which a growth of vegetation existed, of similar water consuming nature as at present. It is the belief of the Committee that natural losses from such irrigated areas should be deducted from present losses to determine the streamflow depletion as a result of man's activities. The Committee is also making estimates of the incidental areas located adjacent to irrigated areas, which would consume water applied to such irrigated areas. Realizing the importance of these studies, the Committee has directed their efforts toward an early completion of the depletion studies. Although results to date have been gratifying there remains a considerable number of decisions to be made and work to be done.

The Committee has assembled and tabulated in the report basic climatological data for use in estimating unit rates of depletion in various portions of the basin. It has also assembled data on present irrigated areas, by states, above key gaging stations and above Lee Ferry. These data were taken largely from field surveys made in 1935-1938 by the Bureau of Reclamation, supplemented by knowledge of the individual committee members. The tentative figures of present irrigated acreage by states above Lee Ferry found by the Committee are as follows:

Arizona	Colorado	New Mexico	Utah	Wyoming	Total
9,840	790,606	38,705	275,440	236,675	1,351,266

River and Reservoir Operation Studies.

Before these studies can be completed, it will be necessary to finish the studies of streamflow depletions and water contributions by states. Data pertaining to evaporation losses and physical characteristics of the known reservoir sites are being assembled for use in making these studies.

Respectfully submitted,
John R. Riter, Chairman,
Engineering Advisory Committee."

MR. RITER: On page 4 there is a tabulation which accompanies my letter, which summarizes the averages for the period 1914 to 1945, the mean historic flows at key gaging stations in the first column. There

is also a column of the drainage areas in square miles.

Following the letter of transmittal there is the body of the report which explains in detail the methods used in arriving at the streamflow extensions. Then in the back part of the report following page 61, there are a number of tables which present the data summarized, the data prepared by the Committee. There is an envelope in the back of the report which contains the maps submitted by the Committee.

Mr. Chairman, I know we did not complete our job. This is a report of what we have done and of what we have left to do.

THE CHAIRMAN: Well, the Chairman is of the opinion that the members of the Engineering Advisory Committee have worked diligently on the matter and I don't think the Committee can be criticized for not having made more progress. If there is any criticism to be made anywhere it in the opinion of the Chair would fall on the Commission itself for outlining such an ambitious program without any regard to the time which might be necessary to complete it.

However, gentlemen, you have heard Mr. Riter's brief summary of his report. What are the wishes of the members of the Commission? I might say, do you wish this report to be embodied in the official records of the Commission or what disposition do you wish to have made of it?

(Discussion off the record.)

COM. BISHOP: I make a motion that the report be received by the Commission for study.

COM. CARSON: Second the motion.

COM. WILSON: Will you read that motion?

(Motion read.)

COM. STONE: I will second that motion.

THE CHAIRMAN: It is moved and seconded that the report be received by the Commission for study. (Thereupon a vote was taken and the motion of Com. Bishop carried unanimously.) Off the record. (Discussion off the record.)

THE CHAIRMAN: Mr. Riter, it is the understanding of the Chair that the engineering report which you have submitted has been unanimously agreed upon by the members of the Engineering Advisory Committee; is that correct?

MR. RITER: It is correct to this extent, sir, that at our last meeting of the Engineering Advisory Committee, at which meeting Mr. Tipton was not present with us, we discussed a draft of the report in substantially the same form that it has been presented to your Commission. At the last meeting of the Engineering Advisory Committee, a number of editorial changes were suggested. We in the Bureau of Reclamation made the editorial changes suggested by the Committee and then I, as Chairman of the Committee, prepared the first three sheets of the report which I submitted and signed. I prepared that as a summary of the entire report and I did not have opportunity to clear that summary with all members of the Engineering Advisory Committee and that is why I signed it myself rather than having all signatures on that letter.

THE CHAIRMAN: Frankly, Mr. Riter, that explanation was very good. Are there any further comments on the engineering report?

COM. STONE: Off the record. (Discussion off the record.) It is suggested by the Commissioner from Colorado that the members of the Commission be given an opportunity if they see fit to call upon their respective engineering advisers on the Engineering Advisory Committee to make any supplementary statements respecting this report which they care to make.

THE CHAIRMAN: The Chairman thinks the suggestion by Com. Stone is in order, and in fact I think it is well understood that any member of the Commission can call on his advisers for any information that he may desire in regard to the details of this report.

COM. STONE: Colorado wishes to call upon Mr. Patterson.

MR. PATTERSON: The only comments I feel like submitting at this time are to support Mr. Riter's position that he finds himself in. We have, Mr. Chairman, as I understand it--and I will speak now for myself--approved this report as an engineering committee. We haven't had a meeting since the final draft was prepared to read each word and figure in it and formally by motion commit ourselves; but the Committee has gone over a previous draft of this report and has edited it and I think practically all the suggestions of each member of that Committee, as nearly as it was possible for Mr. Riter to do so, have been carried out.

May I explain that the initial draft we thought spent too many words and too many pages explaining how we calculated streamflow records, for example, rather than to just submit the results of our assembly of records and our estimates where required to complete that record. So we have asked Mr. Riter and the Bureau people to boil that portion of the report down much shorter than it was in the originally presented form.

The idea of a summary, which some suggested, and the idea of a letter of transmittal, which others suggested, have been handled by Mr. Riter in the only way I think it was possible, namely, to try to consolidate both the summary and the letter of transmittal into one letter that he has prepared. Personally I see no objection whatsoever to his letter of transmittal. I believe it is strictly in accord with what I believe are the ideas of all of the engineering members of this committee. If there are any that don't agree with that they can so express themselves.

My only point is that this is, I believe, the best progress report that our Committee acting on the basis of complete understanding is able to present at this time.

THE CHAIRMAN: Thank you, Mr. Patterson. Does the Commissioner from Arizona wish to call on his engineering adviser?

COM. CARSON: Not at this time, Mr. Chairman. It seems to me that the best way to get at this is finally to give these various members of the Commission an opportunity to go over this report with their advisers and probably tomorrow again have questions to ask Mr. Riter or any of these engineering advisers. As far as I am personally concerned this is the first time I have seen it and I don't have any intelligent understanding of it now at all. I think we could make time by permitting that.

MR. RITER: Mr. Chairman, may I be permitted to say something at this point?

THE CHAIRMAN: Mr. Riter.

MR. RITER: There was no representative of Arizona present at our

last meeting of the Engineering Advisory Committee. However, we did send a draft of the report to Mr. Ralph Meeker, who has been working with us, and he replied that he had no suggestions to offer, so I took it therefore that so far as the Arizona representative on the Engineering Advisory Committee was concerned the body of the report was satisfactory to him.

COM. CARSON: That isn't what I meant. What I am getting at is the substance of the report. We have nothing now we want to call on any engineer for.

THE CHAIRMAN: The Commissioner from Utah. Do you want to call on anyone?

COM. WATSON: At the present time Utah has no comments.

THE CHAIRMAN: Wyoming?

MR. PERSON: I have no comment.

THE CHAIRMAN: New Mexico?

COM. WILSON: To the Commission at the present time I will say this: As I understand this report--it has been made by the Engineering Advisory Committee--the report sets forth facts which presumably the Commission will consider in attempting to determine an allocation of the water. At the present time, of course I haven't had an opportunity to read it. I assume it is authentic--the engineers have prepared it--and it will serve the purpose intended. Mr. Bliss is here and if he wants to make any comments on what Mr. Riter has said, he may make them.

MR. BLISS: Mr. Chairman, I have little to add except to point out that which is obvious, that the Committee has completed only a portion of what was on their original agenda. A great deal of work has been done on some of the items but they are not complete and ready for the report at the present time.

MR. RITER: Mr. Chairman.

THE CHAIRMAN: Mr. Riter.

MR. RITER: From conversations going around the table there seems to be a little doubt in my own mind whether or not you want the Engineering Advisory Committee to complete their studies. We had planned to go right ahead and get as much work performed as is possible to do to complete the assignment given us in Santa Fe a year ago, and I presume that is the intent of the Commission. I presume we should continue to work diligently to try to complete the assignment given us.

THE CHAIRMAN: Mr. Riter, I think your remarks are very much in order. We were going to come to that in a few minutes as soon as we found out whether there was any serious disagreement between the members of the Engineering Advisory Committee on the report. Of course, we understand that when you have a committee at work the report is generally a matter of compromise, but whether there is any serious disagreement or not is the reason for this discussion as your Chair sees it.

MR. RITER: May I assure you--

THE CHAIRMAN: Just a moment, Mr. Riter. Mr. Patterson of Colorado made a very clear statement about Colorado's position on it and I think the

other members have also, and I think we can assume now that the Engineering Advisory Committee are unanimous in what they have brought before the Commission, substantially so at least.

Now the question you have raised is something for the Commission to consider. Whether that can be considered properly at this time or not the Chair is in doubt because the report comes to the Commission this morning cold, you might say; the members do not know what is in it. And until that matter is considered further, I don't know whether the Commission is prepared or willing to take action on the matter of the further studies and any modification of the program or not. The Chair will be very glad to have some expression on that now from the members of the Commission.

COM. STONE: Are questions in order before that matter is discussed? I should like to ask Mr. Riter a question.

THE CHAIRMAN: Go ahead, Judge Stone.

COM. STONE: Mr. Riter, would you point out to the Commission specifically what are the items of study yet to be completed? In reading this report I note the one specific item which you mention under "River and Reservoir Operation Studies." My question is: Are those the only matters yet remaining to be studied under the assignment heretofore given by the Commission to the Engineering Advisory Committee?

MR. RITER: No, sir. The principal item that we have to complete is the matter of determination of present depletions by states and at Lee Ferry. Now that involves also a consideration of channel losses. And then in addition, we have got to make some decisions among ourselves and come to some mutual understandings regarding the runoff from these unmeasured drainage areas in order that we can determine the contributions, both historic and natural contributions, by each individual state. That was one of the tasks we suggested be completed. I don't know in how much more detail you want those discussed but those are the principal items.

COM. STONE: Taking up that last item mentioned under "River and Reservoir Operation Studies," page 3, what arrangements have been made by the Engineering Advisory Committee to do that work?

MR. RITER: Well, we will do it when we get to it. That is one of the items we have more or less held in abeyance until we could get settled some of the--what we considered--basic information.

COM. STONE: My question goes to a matter which arose in my mind after reviewing the reports which you sent out to the members of the Commission. Do I understand that you have a special subcommittee on this last item?

MR. RITER: No, sir, we don't. We have a special subcommittee appointed to study and report on depletions. That in my opinion is the biggest job remaining to be performed by the Committee. That is one of the most controversial. A year ago, being a member of the Bureau of Reclamation, naturally I had quite a bit of pride of authorship in the Bureau's report and I assumed that such report would just be adopted without argument. A matter of engineering judgment entered into the preparation of that particular report on depletion and I found that other members of the Committee had been giving that particular subject serious thought and they had some ideas that were different from ours. We operate on democratic principles and we are earnestly seeking the truth as near as we can deduce it from the information we have.

COM. STONE: May I ask this further question: You say that is the most important job yet remaining to be done by the Engineering Advisory Committee?

MR. RITER: That is right.

COM. STONE: What in your opinion is the relative importance of that job with respect to the making of a compact?

MR. RITER: Oh, well, now, I honestly don't know what the basis of the compact is going to be. From the discussions I take it that one element at least you will want to consider in the making of a compact is where the water comes from and what the present uses are and then if the Bureau of Reclamation has made an error in our assumptions in determining unit rates of depletion, you or your individual advisers for each individual state can use the new information deduced or arrived at by the Committee to convert water that you expect to be allotted to you to irrigated lands.

In other words, for the past 25 years we in the Bureau of Reclamation have assumed that a foot and a half per acre per year average over the entire Upper Colorado River Basin is a pretty good figure to represent the rate of depletion on irrigated lands. Well, I don't know now whether that is a foot and a half, a foot and three-tenths, or a foot and seven-tenths. That may make a big difference on what you hope to accomplish ultimately.

COM. STONE: Are we to understand that there is some difference of opinion in the Engineering Advisory Committee as to whether the Bureau's method was the proper one or not?

MR. RITER: Yes, there is. That is the reason we organized this committee to study the subject, to go right to the basis, to begin from the ground up.

COM. STONE: Well, in any question of the development of the Colorado River--and I would think in a compact that is very important--from your engineering knowledge and experience would you say that question of depletions is an important one?

MR. RITER: Well, if you are going to hold me to an engineer, not a promoter, I would say yes; but if you let me be a promoter, I would say no.

THE CHAIRMAN: Mr. Riter, the Chairman would like to ask you a question: After these studies are all made on this question of depletion, what in your opinion would be the maximum error that might be possible in that after this study?

MR. RITER: The maximum error?

THE CHAIRMAN: Yes, after the study is made. Of course, if the Chairman understands it, this depletion rate will vary according to the altitude and so forth.

MR. RITER: That is right.

THE CHAIRMAN: We will get the average figure.

MR. RITER: That is right. Mr. Chairman, we have compiled some tentative figures which the Committee has not yet adopted--they are strictly unofficial--and it looks as though there might be a difference between 25 or 35 percent from what the Bureau reported. I will tell you one reason, one basic

reason, why that difference came in:

In the Bureau when we estimated depletion we measured the total area irrigated under the canals. Then we applied what we thought was the proper unit rate of depletion. In arriving at the proper unit rate of depletion we tried to size up in our own minds where the lands had a full water supply; and then we tried to size up in our own minds the area of land adjacent that would be irrigated incident to the actual application of water. You know from your long years of experience as an irrigator if you apply water to a hundred acre tract you irrigate considerably more than 100 acres. Your drainage returns will cause irrigation of borrow pits and along drains. We tried to consider all those factors.

However, there is one factor we did not consider which the Engineering Advisory Committee has picked us up on: There are certain areas that were naturally irrigated before man came in there and built irrigation canals. I don't have a figure to give you today as to what extent that is, but it is a considerable area.

Well now, in the judgment of members of the Engineering Advisory Committee who have studied this problem, instead of charging against the acreage irrigated the total area under the ditch times the unit rate of depletion, we should have subtracted off a rate of depletion which was practically equal to the unit rate of depletion for full irrigation. I have in mind particularly a lot of these meadow lands in Wyoming and Colorado, for example, that were located close to the stream and were irrigated by Nature. That was one correction. I am not admitting though the Bureau figures are wrong until I get all the figures to go by. There is a difference of opinion.

The Bureau of Reclamation in our studies, we stopped at the land. We said there was practically no difference in the use at the land and the use at Lee Ferry. In our report we said we were measuring depletion at Lee Ferry but we were measuring it at the land. We assumed no difference because of transmission losses. We assumed that if we had 100,000 acre feet of stream depletion, at the site of use, that we could subtract 100,000 acre feet of the flow at Lee Ferry. That statement has been challenged and justly so. I think we should look into it. It may only be 90 percent, 80 percent, or some other percentage. I don't know exactly. But we want to study that question.

Then I am going to open up another question to you--

THE CHAIRMAN: Pardon me just a moment, Mr. Riter?

MR. RITER: You think I have said too much?

THE CHAIRMAN: No, sir, your explanation has been very informative but if the Chairman understands you, you haven't answered his question yet.

MR. RITER: You mean I have beat all around the bush without coming to the point?

THE CHAIRMAN: You have stated that there might be a difference of opinion of 25 to 35 percent between the depletion shown in the Bureau report and that made up by the Engineering Advisory Committee. My question was, what would be your estimate or guess as to the minimum error that might be in this final report on depletion, or maximum error, whichever you want to call it.

MR. RITER: The final report? We won't admit there is any error

in it if we agree to it unanimously.

COM. WILSON: May I ask some questions?

THE CHAIRMAN: Yes, Mr. Wilson.

COM. WILSON: Mr. Riter, on page 14 of the Colorado River Report in your Table I., you show potential stream depletions in the Colorado River Basin.

MR. RITER: Yes, sir.

COM. WILSON: In the first column you have the present depletion for the Upper Basin and the Lower Basin.

MR. RITER: That is right.

COM. WILSON: Now for the Upper Basin the subtotal is 2,199,800 acre feet, which is the Bureau's estimate of the stream depletions of the Upper Basin. Now I would like to ask you if this Engineering Advisory Committee has yet arrived at any figure that will be comparable to that 2,199,800?

MR. RITER: No, sir, we have not. That is one of our remaining incomplete tasks. As I said before, I have a certain pride of authorship in the Bureau figures and I naturally assumed everybody else would see these figures the way I did, but I was disillusioned in that respect.

COM. WILSON: You don't know whether the Engineering Advisory Committee will come out with a figure that is more than this or less than this?

MR. RITER: No, sir.

COM. BISHOP: Mr. Chairman, could I ask a question? I would like to ask Mr. Riter, isn't it a fact that this information that you are talking about on the area that was irrigated prior to depletions caused by activities of man, that this won't be deducted from this amount and make our present depletions less? Won't it have a tendency to do that?

MR. RITER: Mr. Bishop, it indicates it is going to go in the direction of less, yes, sir. How much I can't tell you. There are lots of elements of judgment that we will have to thrash out among ourselves. Now instead of perpetuating a figure that has been used for 25 years if that figure is wrong, we want to come out with a reliable figure that all states and the Bureau can agree on.

COM. BISHOP: That has got to include the Lower Basin States, I believe--

MR. RITER: No.

COM. BISHOP: --because this depletion in the Upper Basin certainly affects them.

MR. RITER: Well, Mr. Bishop, we are trying to get factual information.

COM. BISHOP: Yes, I know.

MR. RITER: Of course, there is a fine-haired legal interpretation that somebody is going to have to make some day. As engineers we are trying to

get the depletion, what we feel the engineering works actually deplete the streamflow. But there is a legal question on which the lawyers are going to have to work. Take a man who irrigates land under a ditch and that land was previously irrigated by Nature. Legally under the Colorado River Compact, is the state in which that land is located charged with the total depletion or just charged with the difference in depletion? That is a problem for the lawyers but the engineers don't have to worry about it. All we are trying to find out is the difference because that is an engineering problem.

COM. STONE: May I ask a question? You started out to say that there was another matter which was involved in this question of depletion. Will you explain what that was?

MR. RITER: Yes, I will tell you what that is, Judge. Maybe we don't have as big a stream to divide up as we thought we had in 1922, because we arrive at the undepleted flow by adding to the recorded flow our estimate of present depletions. The historic flow certainly is going to be fixed once we determine what that is, and then if instead of adding 2,000,000 acre feet to it, for example--the figure now derived by the Engineering Advisory Committee at Lee Ferry is an average of 13,789,000 acre feet in round numbers, that is historic flow; the figure derived by the Bureau of Reclamation is 2,200,000 acre feet of present uses--if we add the two together that means that the virgin flow at Lee Ferry is 15,989,000 acre feet.

Now for example let's take an extreme case. Suppose the Bureau missed that figure. Suppose we overestimated by 700,000---just supposing now, I am not giving that as a fact but just supposing--then the virgin flow at Lee Ferry instead of being 15,989,000 acre feet will only be 15,289,000 acre feet. That simply means, sir, that there is no surplus water in the Colorado River as I see the analysis.

In other words, it may have a more far-reaching effect than we can now appreciate. Maybe we don't have 7,500,000 acre feet left in the Upper Basin by the time we satisfy the bottom rights of the Lower Basin and satisfy the obligation to Mexico. I can see it could lead to a lot of speculation or controversy or discussion. That is the other point I had in mind, Judge Stone.

COM. STONE: That answers my former question then that this question of depletion is of tremendous importance to the making of a compact.

MR. RITER: Well, I think it is.

COM. STONE: May I ask another question? In this letter of transmittal you refer to Mr. Blaney and say that: "Consultation services of Mr. H. F. Blaney, eminent authority on consumptive use with the Department of Agriculture, have been, and are being utilized to determine unit rates of depletion for application at the site of use." For the advice of the Commission, tell us who Mr. Blaney is and what arrangements are being made, what work he is doing, what work you think he should be called upon to do in the future.

MR. RITER: Mr. Blaney is with the Department of Agriculture, Soil Conservation Service. He spent practically his entire life, his entire professional career, analyzing use of water by agriculture. The Committee felt that we wanted some outside confirmation besides our own judgment when we had arrived at a figure for depletion.

Mr. Blaney has not been too active in it. We have only invited him to one of our meetings. He has agreed to act in a consulting capacity to the

Engineering Advisory Committee on factual information. Mr. Blaney wants to keep his skirts pretty clear of any legal interpretations or any implications that he might be--well, after all he still wants to maintain his position of neutrality and he wants to be adviser on factual information. We invited him to attend one of the meetings of the Engineering Advisory Committee and he sat in on our discussions when this problem of depletion was discussed. He has agreed to assist us by reviewing our report, but he wants to work with the Engineering Advisory Committee as I understand it. In other words, I am not too clear in my own mind whether he will be adopted as a member of our committee or just be a consultant. In any event, we want him to review our work before we submit it to you gentlemen on stream depletions.

THE CHAIRMAN: Off the record. (Discussion off the record.)

COM. STONE: Mr. Chairman, I move that the Commission express its full confidence in the press and in order that they may have appropriate background that they be permitted to sit in the meetings of the Commission except at such times as the Commission may find it necessary to call an executive session, and that the reporters be left free to prepare and send out their own copy, to contain such matters as they see fit except on such matters as the Commission may see fit to ask that no publicity be given at the time.

COM. BISHOP: I second that motion, Mr. Chairman.

THE CHAIRMAN: You have heard the motion. Any further discussion on the motion? (No response. Thereupon a vote was taken and Com. Stone's motion carried unanimously.)

COM. STONE: I move that the Commission recess to reconvene at two o'clock.

(Second. Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

(11:55 a.m. Noon Recess.)

(2:00 p.m. Meeting resumed.)

THE CHAIRMAN: The Commission will come to order. Before recess Mr. Riter was explaining Mr. Blaney's connection with the work of the Engineering Advisory Committee in reply to a question by Judge Stone. Judge Stone, do you wish to develop any further thought along that line?

COM. STONE: I think that question was answered, Mr. Chairman. However, I have another question to ask Mr. Riter.

THE CHAIRMAN: Very well, sir.

COM. STONE: Mr. Riter, on page 53 of the report and for several pages thereafter the question of stream depletions is analyzed by the Engineering Advisory Committee. I note there that there is included the matter of transportation losses--if I may put it that way--between the point where a state delivers the water produced in that state and Lee Ferry.

MR. RITER: Yes, sir.

COM. STONE: Will you explain the significance of that matter?

MR. RITER: Yes, it has two significant applications at least. One application: The original intention was to use the matter of channel losses through the State of Utah to permit the Engineering Advisory Committee to estimate the contributions of the State of Utah to the Colorado River Basin. It would be unfair if we figured the contributions of the other states, Wyoming, Colorado and New Mexico, for example, at their point of discharge into the State of Utah and then subtract the sum of the inflows to the State of Utah from the outflow from Utah in order to get Utah's contribution. We felt in fairness to Utah we should calculate the channel losses for those so-called common carrier streams and make an appropriate allowance so that all states would contribute to channel losses. That was one purpose.

And then looking forward to a time when the Compact would be negotiated we had in mind possibly that each state would agree to deliver certain quantities of water to state lines and then we have in mind--I am speaking now of the provision of the Compact which requires the Upper Basin to deliver an average of 7,500,000 acre feet at Lee Ferry--we have in mind that the Compact will subdivide that obligation and there is the question of working up operating agreements.

And then there was another matter. We believe, from the action that the Upper Basin States have taken, that under the Compact the Upper Basin is entitled to deplete the flow at Lee Ferry by 7,500,000 acre feet annually. Now from our study of channel losses we know that if we have a large streamflow that the channel loss is greater than it is if we have a small streamflow. From the standpoint of depletion that simply means this: That the sum of the depletions at the point of use--whether this be irrigation of land or transmountain diversion or whatever other use you have--if you add all those up and then make an allowance for the fact that if you deplete the streamflow, there is a certain amount of water withheld from the channel and by virtue of withholding water from the channel you are going to have a saving in the channel losses. We hope to compute a relationship between annual streamflow and annual channel losses in order that we can estimate the amount of water that would be salvaged by virtue of using water in the Basin instead of letting it flow downstream past Lee Ferry.

As we envision the ultimate development in the Upper Basin, assuming that there is water supply to make that development, if the Upper Basin depletes the flow at Lee Ferry by 7,500,000 acre feet annually--the actual so-called use of water--the aggregate of all the uses will be 7,500,000 acre feet plus the salvaged channel losses. Now I have not personally made studies as to how much that salvage is but other members of the Committee have made studies and they feel that there is a substantial salvage, probably as much as a half a million acre feet a year. It may be that or it may be less. But that is one point that we wish to study.

Incidentally, in the comments of certain of the states on the Bureau's report, they criticized us for not allowing for salvage. The Bureau did not do it. However, I can point out to you a good example of that and that is the case of Arizona and the Gila River Basin. We have made studies on the Gila River and we find that there is a salvage of about a million acre feet a year in the Gila River by virtue of using the water. In other words, the uses in the Phoenix vicinity are in the neighborhood of 2,300,000 acre feet and we calculate about a million acre feet of those uses are secured by preventing water from being lost in the sandy beds of the Gila River between Phoenix and the Colorado River.

As we see it it is a matter of degree. Chances are in the Upper Basin it will not be as much as it is in the Gila Basin but we feel it is a quantity which should be determined and should be accounted for. Does that

answer your question, Judge Stone?

COM. STONE: Yes.

MR. RITER: That is a further elaboration on it.

COM. WATSON: Will you explain, Mr. Riter, how you figured that salvage in the Gila of the million acre feet?

MR. RITER: What we did down there, Mr. Watson--it has been some time since I reviewed the studies--but we compared concurrent records of the streamflow at the mouth of the Gila River and in the Phoenix vicinity and worked up a relationship between the discharge in the Phoenix vicinity and at the mouth of the River so we could determine how much channel loss there was.

COM. WATSON: That doesn't include pumping?

MR. RITER: No, that is just loss in the natural channel. It has been some time since we made those studies and I think the Bureau is continuing the studies to see whether it is exactly a million or whether it is a little more or a little less. But the studies we made were made in 1934 and they have been brought up to date.

COM. WATSON: How much has been pumped at Gillespie and elsewhere?

MR. RITER: Well, I don't have the exact figures on that today, Mr. Watson. As I recall the pumpage is in the neighborhood of a million acre feet a year in the Phoenix vicinity. Mr. Carson may be able to confirm that if he remembers it.

COM. WATSON: That is my recollection because I talked to two underground water engineers down in Phoenix and that was their conclusion.

MR. RITER: This million acre feet we figured as salvage is not limited only to the channels below the Phoenix area. But having determined the unit rate per mile of channel, we calculated the length of the channel through the Phoenix area, the Salt River and the Gila River, and some of those minor tributaries. So we made an estimate of what the channel losses were before man came in there to develop the stream.

COM. WATSON: What did you figure was your return flow from irrigation, that is, you used a foot and a half or two and a half feet?

MR. RITER: No, I don't think we analyzed it that way, Mr. Watson. We tried to calculate the loss per mile of channel--the original loss per mile of channel. Then we compared the loss per mile of channel to the length of the channel and made an estimate of the amount of water that was lost under virgin conditions. In other words, the quantity we were trying to build up was what the virgin flow was, that is, the undepleted flow at the mouth of the Gila, and we got an average figure of a million three hundred thousand acre feet, and the virgin flow into the Phoenix area was about 2,300,000 acre feet. So we concluded the difference was channel losses which we had salvaged.

COM. CARSON: Which you had partially salvaged, wouldn't you say? There is still a lot of losses there in the Phoenix area.

MR. RITER: Yes.

COM. STONE: Mr. Riter, one of the principal reasons then for this study which you have just described in answer to my question is to envision the

proposition that a state in making deliveries of water to make up the average annual amount of 7,500,000 acre feet should not be credited with the amount which passes the state line but the amount of water originating in the state and to be delivered by a state, arriving at Lee Ferry, is that correct?

MR. RITER: Well, if I understand your question correctly, Judge, yes. As we envision it you are going to have to write some operating rules for your compact and in writing your operating rules you are going to have to allow and make appropriate provisions for channel losses on the water that you might deliver at your state line.

COM. STONE: To put it another way, to get it right out in the open, if a state was given credit for the amount of water which passes the state line in making deliveries at Lee Ferry, then Utah would absorb the channel losses?

MR. RITER: That is right.

COM. STONE: And so it is necessary to determine those channel losses for the protection of the state through which this water passes on the way to Lee Ferry?

MR. RITER: That is right.

COM. STONE: Is that right?

MR. RITER: That is right. I think we can illustrate it by a simple figure. For example, and strictly for example, say that Wyoming undertook to deliver a million acre feet of water in any one year at Lee Ferry. That means that in order to assure that water would get through Utah to Lee Ferry, Wyoming would have to deliver at the Wyoming-Utah State Line, one million acre feet plus a pro rata share of the channel losses through the State of Utah.

COM. STONE: That same rule would apply to Colorado?

MR. RITER: That same rule would apply to Colorado, yes, sir.

COM. BISHOP: Mr. Riter, did I understand you to say that your studies show that the percentage of loss is greater with a large amount of water going down a river than a small amount?

MR. RITER: The total losses.

COM. BISHOP: Oh, the total would be some larger, but don't you think all Wyoming and Colorado should be charged with is the difference over and above what it took to get the amount of water down that was already going there?

MR. RITER: Mr. Bishop, we have not yet worked up a relationship between streamflow and channel losses. We have some tentative average figures which we are not yet ready to report on. But in looking at those averages and looking at the losses year by year, we find that there is in general a relationship between magnitude of streamflow and channel losses. In other words, in years of high runoff the losses are greater than they are in years of low runoff, generally speaking. But the Committee is not ready to present at the present time to the Commission for your consideration, a definite formula that we are ready to recommend.

THE CHAIRMAN: Mr. Riter, are these losses that you are talking about recoverable or nonrecoverable, and in what stretch of the stream are you talking about?

MR. RITER: The losses are partially recoverable, Mr. Bashore.

THE CHAIRMAN: Above or below Lee Ferry?

MR. RITER: Above Lee Ferry.

COM. WATSON: I would like to make this observation: Is not Mr. Bishop's conclusion based more or less on a fallacy because the State of Wyoming wouldn't take care of its loss from Linwood to Lee Ferry proportionately because Utah is furnishing a wet bed for the water of yours that would be evaporated and lost to flow down. Therefore you would have to take care of that portion of the loss that Utah takes in furnishing a wet channel.

COM. BISHOP: The projects they have proposed there won't permit any water to go down to Lee Ferry.

MR. RITER: Of course this matter of channel losses is also tied up intimately with the problem of main stem reservoirs. Main stem reservoirs will introduce some new losses over and above the old losses.

COM. STONE: Mr. Riter, you said the Committee had reached no conclusions as yet. You have been working on that as evidenced by your report?

MR. RITER: That is right.

COM. STONE: May I inquire whether you know now how much more work it will take to arrive at some formulas or recommended formulas by the Engineering Advisory Committee?

MR. RITER: Well, if you don't have me translate that in terms of man years--

COM. STONE: I am not asking for man years; just give us an idea about how much more work remains to be done. You have done some work?

MR. RITER: That is right.

COM. STONE: How much more work is required to come out with some recommended formulas?

MR. RITER: Well, I don't know exactly how to answer your question.

COM. STONE: Well, is it a big job or a small job or have you gotten fairly well along with the job?

MR. RITER: The biggest job is arriving at an agreement among ourselves on what is proper to use. If Mr. Patterson were given the assignment or if I were given the assignment we could work it up on short order, but we must coordinate our views with other people. Tied up with this matter of channel losses is also estimated inflow from unmeasured drainage areas. The two have to be considered together.

I can only answer your question this way: It is not what I consider a tremendously large job. We have run into some tough problems on the San Juan in particular to rationalize our estimate of losses. In other words, we make an estimate based on the information we have and then we sit back and look at

it and see if it looks reasonable.

We have made estimates of the main stems below Green River, Utah; below Cisco, Utah; and below Bluff, Utah, down to the Lee's Ferry gaging station. I think that our estimate of losses is fairly rational. We have attempted a similar analysis for the San Juan but we find some losses in there we just don't understand, we can't account for them. I don't know yet how we are going to resolve it. It is a matter of making a decision with the data available and that is the best information we can present when we get to it. I don't know whether Mr. Patterson would care to elaborate on it or not. If you would I would be very happy to have you do so.

MR. PATTERSON: I would like to if you will permit me to.

THE CHAIRMAN: Go ahead.

MR. PATTERSON: This question of channel losses, as Mr. Riter has indicated, is related to a lot of other questions including the amounts of water contributed particularly by New Mexico and Utah. The question of time when you can finish one of these things is purely a matter of guessing on the question of how uniform your various methods of calculation come out.

On this lower reach down to Lee Ferry it happened that the two methods of calculating that channel loss were in substantial agreement. One of those methods is based upon streamflow records. The other is based upon areas exposed to evaporation and it happened that the two subcommittees working independently came up with figures substantially in agreement for that stretch of about 500 miles of river. Then we proceeded to work upstream from Green River, Utah to Linwood, and up the Colorado above Cisco, and up the San Juan River above Bluff, because we still have common carrier sections of rivers in all three of those major tributaries.

Now, here is where we got stalled and are having to do some additional work: The two methods didn't check on the San Juan above Bluff and they don't check on the Colorado above Cisco. The question then that confronts any engineer is which of the two widely differing results we feel is the one that we can recommend to you for your use as being dependable information. And until the inconsistency of those two methods of study in that instance are understood and worked out and something can be agreed to by us, we have nothing that we could report to you except figures that you would have to debate yourselves as to which one you would use.

So we can't say definitely when we are going to run into those conflicting results and the need for additional study and an approach from a different way.

COM. WATSON: Is that based on a lack of data, Mr. Patterson?

MR. PATTERSON: A lack of accurate and complete information of course is one reason for considerable work in all schedules that we have tackled. But in this case I doubt if it can be attributed to lack of information because we did have the daily flow values for some of the years on these two streams where these inconsistencies showed up and we did have information about the water areas exposed to evaporation and the adjoining bottom land areas that were also water consuming in character. So that it is not accounted for there wholly by lack of adequate data but it is one of those things that is simply a hurdle which we have reached here which requires further study and consideration before our minds are in agreement as to what is a figure we can give you that you can depend on.

MR. RITER: You might mention too, Mr. Patterson, in the operation of the Committee so far, we have been unanimous on the figures we have agreed on.

MR. PATTERSON: Yes, I think that is true, that there has been nothing yet that the Committee has tackled but what everything we have done has been satisfactory to every member of that Committee and meets his own viewpoint as to the thing to do. That includes both the presentation of this report and this assembled basic data and the withholding of things that we are not yet ready to report on. That does not mean that we have among ourselves any controversy of any personal nature. It isn't attached in any way to the possible effects of this difference upon any one state. It is purely a matter of engineering differences of opinion growing out of subcommittee studies that are not as yet in agreement.

MR. GILES: May I ask, your subcommittees are representative of all the states involved?

MR. PATTERSON: That is right, and they are participated in, every committee, by the representatives of the Bureau of Reclamation.

COM. WATSON: May I refer to your question of reservoirs again that you just mentioned?

MR. RITER: Yes.

COM. WATSON: Is it not proper in studying these reservoir sites to figure that they are containers that stop Wyoming's water, Utah's water, and Colorado's water in its course down to Lee Ferry to meet our obligations at Lee Ferry during dry years? There are those great reservoirs, the containers which actually contribute to utilizing the water that we have and that we are obligated to deliver, more than we may use among ourselves beneficially.

MR. RITER: Mr. Watson, that has been my concept of the problem, yes, sir. Of course, that particular phase of the problem, I am sorry we are not ready to report on, but I am speaking for myself now. I have always had that in mind, the reservoirs would be common property. I would like to illustrate that with a few figures if I may--if I can find them.

The average recorded flow of the Colorado at Lee Ferry during the low ten-year period 1931 to 1940, was 10,200,000 acre feet. Now if we assume for the purpose of illustration that our share of the Mexican Treaty obligation plus the obligation to deliver water at Lee Ferry would add up--just for argument purposes--to 8,200,000 acre feet, then by deduction that means that if we have no reservoirs, we can only utilize 2,000,000 acre feet of additional water supply--that is, the difference between 10,200,000 and 8,200,000.

Well, now, if we should build reservoirs in that period which would release an average of 2,000,000 acre feet of stored water to the stream, that means we could then expand our uses by 2,000,000 acre feet. That is my concept of it. There may be some other angles that I haven't exactly, properly evaluated but in my concept those main stem holdover reservoirs are common property and all states are interested in them.

COM. WATSON: And wouldn't it further be the case, Mr. Riter, that those reservoirs would serve as a means to develop power and the profits from that power would go towards paying Wyoming's expenses for their projects and Colorado's expenses for their projects and Utah's expenses for our projects inasmuch as we are unable to fulfill the requirements of the Bureau of Reclamation 100 percent? In other words, inasmuch as we have to be subsidized, won't those reservoirs help us all in a community way to pay our way?

MR. RITER: Speaking as a promoter, yes.

COM. STONE: I would like to ask a question: When is Mr. Riter a promoter and when an engineer?

MR. GILES: Mr. Chairman, may I follow that comment up a little bit? I would like that definitely explained if he cares to.

MR. RITER: As an engineer I would like to see all the facts gathered. As a promoter and a member of the Bureau of Reclamation, I would like to see the states come to a quick agreement, select a list of projects and give them to the Secretary of the Interior and say, "Mr. Secretary, we have agreed among ourselves we can build these projects that will use up 'x' amount of water, and we will not squabble up to here. We can surely build these amounts of projects."

Gentlemen, I will repeat what I said at Salt Lake City: As long as we continue to fight among ourselves and argue and do not build projects, the water is going downstream and the people downstream are only human beings and if water is running by their doors, whether they be located in California or the Republic of Mexico, they are going to be tempted to use that water. I am very sincere in my promotional activities. I do want the states to get together and agree as soon as possible whether we have a compact or whether we don't have a compact, on a group of projects that we can promote and build.

COM. WATSON: Mr. Riter, the reason I made the reference to the reservoirs and their usefulness was that we seem to be taking an attitude here that it is the contribution entirely that governs by each state. We admit that that is a factor but this other factor that we have just brought up, furnishing the containers for the conservation of that water, is equally important and therefore we don't wish Utah to be misunderstood by its silence to acquiesce in the fact that contribution is the main thing. It is one of the things and only one. There are other factors just as important.

MR. RITER: I think the Commissioners have that well in mind, Mr. Watson.

COM. STONE: I don't think anyone contends, Colorado doesn't contend that contribution is the sole factor. There are many factors that have to be considered in reaching equitable apportionment.

THE CHAIRMAN: I don't see how you gentlemen can argue these questions without completion of these studies and it seems to me we ought to be consistent. I would like to ask you a question, Mr. Riter.

MR. RITER: All right.

THE CHAIRMAN: What happens to these channel losses? What are the causes of channel losses, first; and what happens to the channel losses, second?

MR. RITER: Well, as nearly as we can deduce at present, Mr. Chairman, the losses that we have analyzed are due entirely to evaporation and transpiration. In the canyon portions--

THE CHAIRMAN: Pardon me. Let me interrupt you right there. That kind of loss could not be recoverable.

MR. RITER: Except to this extent: If you have a smaller quantity,

of water going down the stream you reduce the area exposed to evaporation and transpiration so to that extent you can recover them.

THE CHAIRMAN: You can't recover an evaporation loss certainly.

MR. RITER: Mr. Chairman, for example, a stream has a cross section and the higher your stage the greater the water surface area exposed. And then in certain cases during high flood stage, the stream overflows its banks and part of the water becomes entrapped in sloughs, a part of it seeps into the flats, and then when the stream recedes, the water is not immediately drained out and then it supports a tremendous growth of vegetation and some of it is lost by evaporation. If you control it by use of water upstream and the quantity of the streamflow is decreased, that means then that the area of the channel is decreased, the area subject to evaporation, and it means also that the frequency of overflow and the magnitude of overflow is decreased.

MR. GILES: What you mean, Mr. Riter, is that it is compensated, not recovered?

MR. RITER: Well, it is reduced.

MR. GILES: You can have compensation by reduction, can't you?

MR. RITER: I don't understand your terms, General.

MR. GILES: You are attempting to explain to the Chairman that a loss is not a loss, as I get you.

MR. RITER: That is right.

MR. GILES: And you are compensating that loss by another consideration which you have just explained.

MR. RITER: Maybe--I don't pretend to be a lawyer. I can't answer your questions.

COM. WATSON: You prevent the loss.

MR. RITER: We prevent the loss.

THE CHAIRMAN: I think that is the understanding.

MR. GILES: I understand it too.

COM. BISHOP: Mr. Riter, isn't it a fact that this matter of channel losses is a matter that is impossible of accurate determination?

MR. RITER: You are an engineer, Mr. Bishop.

COM. BISHOP: I am asking you because you are supposed to be an expert.

MR. RITER: Thanks, but I don't pretend to be an expert. It is true that there is no such thing as precision but we have approached the problem from at least two different methods and in the case of the main stem study, our two different approaches gave consistent results. They were within the realm of what we considered accuracy. So for that reason we had a great deal of confidence in our derived results. They are not precise from the standpoint of precision but they are within the realm of engineering accuracy.

COM. STONE: You mean by that that you could reach a reasonable degree of accuracy?

MR. RITER: That is right. And the eight of us in the Committee were reasonably reconciled that the results were rational. In other words, we could account for them.

COM. BISHOP: Mr. Riter, didn't you consider that the report of the Bureau of Reclamation was within a reasonable degree of accuracy on those matters?

MR. RITER: Well, now, I told you before I have pride of authorship in the Bureau report. I think it is within reasonable accuracy, yes, but I think I may have been owner blind. Other engineers who are just as competent as I am and have had much more experience have challenged the findings. Tom McClure before he died--I am sorry he died when he did because I never did find out what was exactly in his mind--Tom McClure felt we had underestimated the present uses in New Mexico by virtue of not allowing, as I understand it, for losses on return flow.

Frank Merriell, an engineer who has spent his lifetime in Western Colorado, and he knows Western Colorado like a book, has made an analysis similar to ours and he comes out with a considerably smaller answer than we found for Colorado. So in the light of that, I can't close my eyes to the findings of these other engineers.

At the time the Bureau made a study, I worked independently. We had engineers familiar with the areas work independently and we had the figures checked. It seems to me that the differences are too great so we shouldn't let them pass without investigating them to see what the right answer is. I am sorry that we didn't agree but we just didn't so the thing to do is get the facts and derive an answer that we can all subscribe to. Certainly I am the last one to admit the Bureau report is wrong. Maybe I am going to be the tough one of the Committee to convince.

MR. PATTERSON: Mr. Bishop, on that point, if I can supplement Mr. Riter's statement and help defend him a little bit, I think it is just bluntly when the Bureau report was gotten up the question of channel losses before Lee Ferry was ignored. It just wasn't taken into account.

Now answering your question about whether it is possible to measure channel losses, we assume that these records of streamflow that have been compiled by the Federal agencies and the states are reasonably accurate, are acceptable for use, and yet we know that they are not perfect. There are, as you know, allowable, recognized degrees of departure from perfection even in the streamflow records themselves. Now channel loss as measured by hydraulic methods, streamflow records, is measurable to the extent that it is merely the difference between two measured quantities. It is calculated from the other process of area times evaporation rates. And in all of this work where it is possible to do it, we are trying to check every conclusion before it is put out in all of the reasonable ways in which that check can be carried out. None of them are perfect. The basic records we start with are not perfect. But it is a class of engineering information that is acceptable and dependable for investments in the future and commonly they are made on the basis of this kind of record.

COM. BISHOP: We are willing to accept any method that has any reasonable degree of accuracy. We would like to go ahead and get a compact.

MR. PATTERSON: Speaking personally, I don't believe there is anyone

more anxious to get it done than I am because I have devoted my life to these kind of things and I don't expect to be here much longer. I would like to see this done right away.

MR. WALLACE: Off the record. (Discussion off the record.)

MR. RITER: I don't know whether I have answered you fully or not, Mr. Bishop, but that is about the best explanation I can give to you.

COM. STONE: Since you were one of the authors or one of those who worked on the report of the Bureau of Reclamation, you don't question Mr. Patterson's statement that in your report the Bureau didn't make any estimation whatever of these channel losses?

MR. RITER: No, sir. I will say definitely we did not. I am frank to admit we didn't. I am more or less reconciled to the omission this way, that if we salvaged any channel losses we would lose it again in main stem reservoirs. That is the way I reconciled my own thinking to that deficiency.

MR. GILES: You still feel that way?

MR. RITER: To a certain extent, yes, sir.

COM. WATSON: Have you reached the point now where you can tell us what the losses on the main stem reservoirs might be?

MR. RITER: I am still using the figure, 800,000 acre feet, round numbers. That is new loss over and above present losses. The Bureau has the figure about 831,000, but I like to deal in round numbers so I call it 800,000.

MR. LARSON: Is that gross loss or net loss?

MR. RITER: That is net loss over and above present losses. What do you say it is?

MR. LARSON: It is too high.

MR. RITER: Mr. Larson challenges my statement. I don't know whether you want to answer Mr. Watson's question or not.

THE CHAIRMAN: Gentlemen, it seems to me you are getting into details which are not appropriate for the Commission to handle. That is a matter for the Engineering Advisory Committee as I understand it to dispose of and bring it before the Commission.

MR. RITER: The Engineering Advisory Committee has not made a study of reservoir losses. I gave that strictly as my own figure.

THE CHAIRMAN: The Chair would like to see a full development of the ideas here looking forward to the action which this Commission should take in regard to further work of the Engineering Advisory Committee. Now I don't know whether you members of the Commission have all the information that you feel that you should have in regard to the further work of this Engineering Advisory Committee or not. If you haven't now is the time to develop your information.

COM. BISHOP: Mr. Chairman, I have prepared a little statement here for the State of Wyoming. It might give you something to argue about and it might help you to get started with your negotiations. With your permission--

THE CHAIRMAN: Pardon me just a minute, Mr. Bishop. I don't want to bar anything but I wonder if this is an appropriate time or not. I would like to dispose of things in order. We haven't disposed of the future of this Engineering Advisory Committee yet. I would like to do that and then consider your proposition if that would be satisfactory to you.

COM. BISHOP: It might make some difference on what you would want to do with the Engineering Advisory Committee.

THE CHAIRMAN: Very well.

COM. BISHOP: If the group would approve of what we propose.

THE CHAIRMAN: Very well, Mr. Bishop, go ahead.

COM. BISHOP: It seems to me that the most troublesome item that confronts this Commission is the transmountain diversion that are proposed.

As I view the situation, if 3,000,000 acre feet or more of water is transported from the natural basin as now proposed, the 2,300,000 acre feet additional left for consumption will be of no benefit to any of us as it will be taken up in reservoir evaporation and channel losses.

It was on account of the insistence of some of the Upper Basin representatives on the Colorado River Compact Commission that transmountain diversion of water be allowed that caused the Lower Basin States' representatives to insist on a guarantee of an average of 75,000,000 acre feet of water in continuing ten-year periods. This was a mistake that can well wreck the entire plan of the development of the Upper Basin unless we face the facts and keep the amount of water to be transported from the Basin within reasonable limits.

May I suggest for your careful consideration, gentlemen:

(a) That the compact be made to provide that not to exceed 25 percent of the allocation of any state be transported from the natural basin.

(b) That the compact provide for closing of a portion of the transmountain diversions necessary to make good any obligation at Lee Ferry.

That is an easy matter for the administration under the compact to handle according to the way these men have told me the thing would be handled. As I understand it, they are going to know pretty well if a year comes along that is going to be a short year and they might have to cut down 5 percent or 10 percent on their amount of water that could be allowed for transmountain diversion. My first thought was that it would all be shut off but as we have thought it over in Wyoming this is the idea we have.

We believe this is a fair and equitable solution of the most difficult item to be considered in these negotiations.

Unless some simple solution such as this is provided the problem of meeting the obligation at Lee Ferry at once becomes complex and a matter that, to me, seems impossible of practical solution.

That is all.

MR. GILES: Let's hear No. 1 again, Mr. Bishop, or (a).

COM. BISHOP: Now this percent, when I say 25 percent--this is just a thought. Maybe you would want to make it 15 or make it 30 or make it 50. I am not insisting on anything; I am just giving you an idea of something to work on. So far I don't think we have had many ideas.

(a) That the compact be made to provide that not to exceed 25 percent of the allocation of any state be transported from the natural basin.

Now, gentlemen, what I have in mind is this: Over in Colorado they have got the Colorado-Big Thompson and they have got gathering ditches that go around there and take the water and that is all right and I don't object. But the water that is left in those tributaries, a lot of it will never reach the main stream and it will never do anyone any good and we should know what percent it is possible to take out.

Wyoming is willing to sign on the dotted line. We want about 200,000 acre feet of water for transmountain diversion and we will sign on the dotted line to scale ours down to take care of the obligation at Lee Ferry. And it is our position that it is morally wrong to take water from a basin which is needed within that basin and this will take care of the situation, gentlemen, and it looks to me like it is something for the engineers to think about, to work out something along this line that will do the job.

COM. WATSON: May I ask Mr. Bishop a question?

THE CHAIRMAN: Pardon me just a minute. I think that perhaps our reporter would like about five minutes' rest.

(3:05 p.m. Recess.)

(3:15 p.m. Meeting resumed.)

THE CHAIRMAN: Now the Commission will come to order.

COM. WATSON: I would like to ask Mr. Bishop if all of the Lower Basin or most of the Lower Basin doesn't utilize their water on the basis of transmountain diversion?

COM. BISHOP: Mr. Watson, I don't think it makes any difference to us how the Lower Basin uses their water.

COM. WATSON: Then why should it make any difference between ourselves how we use our apportioned water if we furnish the water guaranteed at Lee Ferry?

COM. BISHOP: Well, as I said before, we believe it is morally wrong to take water out of the basin that is needed within the basin. If it weren't for the transmountain diversions there would never be any shortage of water at Lee Ferry according to my judgment so why not have the transmountain diversions set up so they will take care of it. And these engineers, if they know that has to be done, will make their studies so that there will never be any shortage for the transmountain diversions I don't believe.

COM. STONE: May I ask you this question, Mr. Bishop: Is it any concern of Colorado how Wyoming uses its share of the water which may be apportioned to Wyoming provided Wyoming makes its agreed deliveries of water at Lee Ferry?

COM. BISHOP: I would say that it would if transmountain diversion was going to cause Colorado to have to turn water down to make good that obligation at Lee Ferry.

COM. STONE: Isn't that the affair of Colorado and not the affair of this Commission?

COM. BISHOP: I think so.

COM. WATSON: May I ask Judge Stone a question? Judge, what is the attitude of Colorado concerning the transmountain diversion at Big Thompson? Do you figure that that is subject to your obligation at Lee Ferry?

COM. STONE: You have got a two-pronged question. I want to say this, that Colorado-Big Thompson water would have to come within Colorado's apportionment of water and Colorado would be obligated to make any deliveries at Lee Ferry which Colorado agreed to make in a compact.

COM. WATSON: And if necessary you would cut off Colorado-Big Thompson to fulfill that obligation if we were living in time of a drought?

COM. STONE: That would be a question for Colorado to determine. We have a priority system in this state and we feel that it would be no concern of any other state what water we turned down to Lee Ferry or what projects were cut off. To a certain degree that would be determined by priorities. In another degree it would be affected by such agreements or arrangements which are made under state policy with respect to projects that are constructed as reclamation projects and under some authorization by Congress.

That is, after all, a question of each state adopting its own policies for the use of its share of water as finally determined, and each state would be obligated as a state, as a sovereign state, to meet its commitments for deliveries of water at Lee Ferry under any compact which would be consummated. It seems to me that you can't tie that to any project or any basin, but in order to make a compact workable you must rely upon the sovereign states that are responsible for and must be looked to in order to carry out any compact that is made.

COM. BISHOP: Judge, I would like to ask you a question: Isn't it a fact that in the State of Colorado you make the transmountain diversion of water secondary to the use of water within the basin?

COM. STONE: No, that is not a correct statement. You have first got to consider that we have applicable in this state the priority doctrine. Secondly, you have got to consider the policy of the state with respect to Federal projects that are authorized by Congress. You must draw a distinction between those projects that are authorized by Congress under certain conditions and projects that might be built by, let us say, private enterprise.

But as to the Colorado-Big Thompson project and similar projects that are authorized by Congress, we have followed the policy and principle of setting up those projects in a manner that their operation will protect the present and prospective uses of water within the basin of the Colorado River. But we conceive that to be a matter of state policy and not a matter which is the concern of other states so long as we meet any obligation imposed by compact relative to delivery of water at Lee Ferry and so long as we use water within any amount which is apportioned to the state.

COM. BISHOP: It would seem to me if that policy would be a good thing for Colorado it would be a good thing for the Upper Basin as a whole.

MR. GILES: Mr. Chairman, I don't want to impose on the Commissioner.

prerogative but I think early in the consideration of this problem I was given the privilege of the floor when I felt that I had something to say that was pertinent.

I am directing myself to Mr. Bishop's proposal, not in criticism of the contents, but procedure. I don't think your proposal at this time is in order. You would have the Commissioners setting up a formula to which the engineers would conform, as I got your statement a while ago. I don't believe that is the function of this Committee. I believe it is the function of this Engineering Advisory Committee strictly to produce facts, data, on which or from which the Commission will determine a formula and a basis for the apportionment.

COM. BISHOP: Mr. Giles, we wouldn't need those depletion studies if you would work it out this way. The shutting off of the transmountain diversions if and when there was liable to be a shortage would automatically take care of it.

MR. GILES: Of course, I can't agree with that position. I believe you have got to proceed with the report of this Committee. And getting back to the point that the Chairman asked some information on sometime ago, Mr. Riter, in my opinion neither you nor Mr. Patterson, with all due deference to you, have properly answered the question of the Chairman. How much time would it take to develop the information on channel losses in the area that you spoke of where you have reached an impasse? Do you have data to secure it? Is it necessary to secure further data? Or is it a mere disagreement among the engineers as to the formula that should be used?

COM. STONE: Grover, may I correct a word you used?

MR. GILES: Yes.

COM. STONE: I don't believe either Mr. Riter or Mr. Patterson meant to convey the idea they reached an impasse.

MR. GILES: I mean an impasse in the sense of a hurdle.

COM. STONE: I think they simply meant that the Committee had not yet had time enough to work out a formula and that thus far in their consideration of this matter there had been no disagreement, but it was necessary to find a formula which they all could agree upon.

MR. GILES: I think we understand each other, Judge Stone. I inaptly used the word "impasse."

COM. STONE: Yes.

COM. WATSON: May I ask Judge Stone a question?

THE CHAIRMAN: Yes.

COM. WATSON: What is the difference between the obligation of the State of Colorado to a reclamation project and a project built by private enterprise?

COM. STONE: Colorado has adopted what we refer to as the 1937 Conservancy District Act. That Act was set up primarily for the purpose of creating districts which would have the authority to deal with a Federal agency, such as the Bureau of Reclamation, in executing an acceptable repayment contract. The Act as amended in 1941 I believe, or it may have been 1943, sets up a

principle that must be observed by a conservancy district set up to enter into a repayment contract involving a transmountain project. And in the case of the Colorado-Big Thompson project, the project was authorized by Congress subject to an agreement expressed in Senate Document 80, which prescribed the conditions under which that project could be built and operated.

Now such a procedure as that would not be involved by a private group or a municipality that financed the project itself unless that municipality or that private group agreed themselves to be bound by such an arrangement. Does that answer the question?

COM. WATSON: Yes, sir.

MR. PATTERSON: May I explain one step further I believe for Mr. Bishop or Mr. Watson, that that Act provides that the plans for that project shall provide for the facility such as compensating or replacement storage on the Western Slope.

And I want to elaborate just a little further: We don't expect to build projects that can't divert and use water; and in order that these present projects like the Colorado-Big Thompson can continue, even during a period when their junior rights under state law would prevent them from diverting water, they replace that river flow for the senior Western Slope people out of reservoirs they built as a part of their project.

The same thing must happen here. The Upper Basin can't go far in the future without building reservoirs that will operate to release water during these drought cycles in order that irrigation projects and diversion projects upstream can continue to function. That is the purpose of them. And instead of shutting off projects, we are going to rely on these reservoirs to make good on the obligations at Lee Ferry.

MR. ROLLINS: Mr. Chairman, is it permissible for someone sitting down this far to say a word?

THE CHAIRMAN: I think so, Mr. Rollins.

MR. ROLLINS: I am just wondering if it was upon the insistence of Congress under the terms of your Big Thompson project that the rights of the land owners and water users on the Western Slope were protected. If so, wouldn't they likewise insist on any future transmountain diversions either in Colorado or any other state?

COM. STONE: That policy didn't arise out of Congress. That policy arose within the State of Colorado itself.

MR. ROLLINS: As between the two slopes?

COM. STONE: And it is necessary and we conceive it to be good policy to protect the present and prospective uses within the basin.

COM. BISHOP: That same plan you have, Judge, extended, would be exactly what I proposed for the whole basin for the protection of the basin. It seems to me that the basin is entitled to protection the same as the part of it which is in Colorado.

COM. STONE: Mr. Breitenstein calls my attention to a consideration which perhaps Mr. Bishop does not seem to appreciate. We have transmountain diversion projects in this state, existing projects, which export, I believe

according to the estimates of the engineers, approximately 135,000 acre feet a year. Those are old projects and one of them has a priority date I believe of 1892, isn't it?

MR. BREITENSTEIN: The early '90's.

COM. STONE: At least it is the early 1890's. And this Commission would not have the authority to impose restrictions within a state against such exportation. After all, it gets back, it seems to me, to the policy within a state as to how it shall use its share of water and how it is going to make deliveries at Lee Ferry under any compact which may be negotiated and approved.

COM. BISHOP: It is only water that is to be divided under the compact, Judge, that I propose to regulate to take care of the obligation at Lee Ferry. I don't propose to stop any present transmountain diversions. We have some in Wyoming and of course we don't allow them in Wyoming except where the water is not needed in the basin. We try to keep the basin taken care of before we allow the water to be used without the basin.

COM. STONE: I repeat my question and it is not the purpose of argument but for the purpose of a question for your consideration: What concern is it of Wyoming how any other state uses its water so long as that state does not exceed its apportionment and makes deliveries at Lee Ferry which may be imposed by compact?

COM. BISHOP: It makes this difference, Judge: If you make that transmountain diversion amount of water so great that there is no water left for use within the basin, it naturally affects Wyoming.

COM. STONE: It doesn't affect Wyoming in the least, does it, if Colorado does not exceed its use of water apportioned by a compact and if Colorado or any other state that may be involved makes its deliveries at Lee Ferry because that would leave to Wyoming the apportionment of water to Wyoming and would leave to Wyoming its obligation to make deliveries at Lee Ferry and no more?

COM. WATSON: What would you think of this proposition, Mr. Bishop: Suppose that in Utah there was a power plant built on the main stem of the River and that there was a transmountain diversion into Utah where the beneficial use would be very high; suppose that project could pay for itself through the sale of electric power and in addition some of the profits from the sale of that electric power could be used for building of the Seedskaadee project, would you object to that?

COM. BISHOP: No, not at all.

COM. WATSON: In that case you have a transmountain diversion tied in with a local development of power on the River in which a contribution would be made to Wyoming through a power pool to pay for its projects. That would be tied in with a transmountain diversion.

COM. BISHOP: When enough reservoirs are built on the main stem and tributaries at strategic locations, there probably will never be a shortage at Lee Ferry that will need water other than water stored for that purpose.

COM. WATSON: What if those reservoirs were built on the main stem of the River, power was developed and the power went over into Utah where 80 percent of the market is for power, and those profits from that power helped to build most of your projects in Wyoming; would you object to that?

COM. BISHOP: No, that would be perfectly all right. I still think that the water that is taken out of the basin should be made secondary and I do believe that this Compact Commission has the authority to make it so.

THE CHAIRMAN: Gentlemen, your Chairman doesn't want to be arbitrary and cut off discussion on this question. It seems to me Mr. Bishop's proposal has been rather thoroughly discussed. Perhaps it can be disposed of by a motion.

COM. BISHOP: Mr. Chairman, I didn't propose it as a motion. It is just something to talk about and think about. I would like to hear somebody make a counterproposal. I think that is how we make a compact, find out what the other fellow wants and find out if it is acceptable.

COM. WATSON: I have a very short answer to Mr. Bishop's proposal. May I give it?

THE CHAIRMAN: Yes, sir.

COM. WATSON: I think Judge Stone has answered Mr. Bishop in making a counterproposal and that is it is the business of each state itself as to what it shall do with its water, whether it shall use it in projects along the River or use it by transmountain diversion.

THE CHAIRMAN: It seems to me, gentlemen, that that is pretty evident that this Commission, which is a negotiating body only, would certainly be assuming a lot if it attempted to tell any state what it could do with its allotment of water. Now Mr. Bishop, though, thinks that this might affect the future work of the Engineering Advisory Committee. As he is a member of this Commission, his ideas certainly must be given consideration. I think the matter has been rather fully discussed and you might leave the matter for further consideration at some later meeting of the Commission and proceed at this time in the matter of what disposition shall be made of the Engineering Advisory Committee, what is the future program for this Committee if any.

COM. WATSON: Mr. Chairman, do you call for a motion on that?

THE CHAIRMAN: Well, it is up to the Commission to do whatever they like about it.

COM. WATSON: I move that the Engineering Advisory Committee remain intact and that it be authorized to proceed to the completion of those items enumerated on pages 53 to 59 of its report filed with the Compact Commission this morning and listed therein as being incomplete and needing further study.

COM. BISHOP: I will second that motion.

THE CHAIRMAN: Motion has been made and seconded. Now, gentlemen, I hope you realize that motion means that the Committee will simply go ahead and study. You say nothing about time. Possibly nothing can be said about time. But people ask a lot of questions about the negotiation of this compact and it seems to me none of the Commissioners are in very good position to give anybody any indication of when this matter may be disposed of, the report of the engineers.

COM. WATSON: May I ask a question, Mr. Chairman?

THE CHAIRMAN: Yes, sir.

COM. WATSON: Would it be well to incorporate in that motion that within a certain limited time, say ninety days or 120 days, that Engineering Advisory Committee report back to this Commission?

COM. STONE: May I also ask this Commission, when we have an engineering committee that is working diligently as this one, meeting at least once a month, and where the Federal Government Bureau of Reclamation has contributed as much help as it has and all the states have contributed help, are we in any position to put a time limitation or is it appropriate to put a time limitation on a committee that is doing the very best job it can? It seems to me that unless you assure to this committee more men, more help, that we are in a pretty poor position to dictate how soon and how fast they shall do this work so long as they are working as diligently as they are now.

COM. WATSON: Couldn't we have a progress report within that time limit?

COM. STONE: That would be possible.

COM. WATSON: Then if they are not through they can have more time.

THE CHAIRMAN: Gentlemen, if your questions are directed to this Chair, I want to say this: This Committee was set up about thirteen months ago and your Chairman at that time insisted on something in the way of an estimate of time and the Commissioners didn't think well of that suggestion. I am bringing it up at this time so that you will understand and so that we will all understand that if it is your wishes that there is no time limit set on the work of this Engineering Advisory Committee, they will work along and do the best they can and the Commission will have to wait until this information is collected and will patiently wait for the collection and compilation of this further information. That is the reason your Chairman is bringing this question up at this time.

COM. BISHOP: Mr. Chairman, Wyoming will go along with you on the proposition of setting a time limit there. We appreciate very much the work that has been done by this engineering subcommittee. They have done a fine job. And while I don't agree with delaying a compact until they are done, I do think we should go along with them and I would like to have their estimate on how long it will take and then I would like to help them in every possible way to meet that obligation within the time. I am sure Professor Person and our group at the University would go along and cooperate, won't you, Professor?

MR. PERSON: Yes.

COM. BISHOP: In every possible way to hurry it up.

COM. WILSON: Mr. Chairman, I believe there is a motion before the Commission. I understand that the motion was to continue the Engineering Advisory Committee intact and instruct them to continue with their investigations as they indicated they could do based on the progress report that has just been filed. May I speak on that motion just a moment?

THE CHAIRMAN: Yes, sir, Judge.

COM. WILSON: New Mexico has spoken very little and perhaps we might be better off if we continue to do so, but first I would like to say that I feel that we should continue this Committee. But I could detect, I think, in the attitude of the Chair and remarks the Chairman has made in previous meetings, that there is a little bit of disappointment a compact can't be arrive at without continued delay which is involved in the continuation of the studies of

this Engineering Advisory Committee.

I think we all realize and the questions that have been asked here this morning indicate that the work the Committee is doing is important and it is going to require a great deal of work and a great deal of study to arrive at any conclusions they are willing to recommend to this Commission. In spite of that I will say I think the Committee should continue.

But I am not sure that when that is done, this Commission has reached a basis upon which an allocation can be made of the water allocated to the Upper Basin States. So far I have heard nobody suggest any fundamental basis upon which an allocation should be made. Suppose you continue these studies and get the stream depletions and the channel losses and how much each state contributes, have you then gotten down to a basis where you can say, "These things furnish the fundamentals upon which we can make an equitable apportionment of the water among the four states, including Arizona?"

I think we cannot point to any statements that have been made by any member of this Commission suggesting a definite allocation except perhaps a form of compact that Mr. Bishop submitted at a meeting not long ago for the consideration of the Commission. Now that compact that he submitted did have in it a suggested allocation, so much for New Mexico, so much for Wyoming, so much for Colorado and so much for Utah. I inquired at that time upon what basis Mr. Bishop arrived at the figures included in the proposed allocation. Somebody said something about a percentage basis. And so far as I know there has been no principle laid down that would justify that allocation or any other allocation that has been suggested. When we get all this engineering data, are we going to be in any better position that we are in now to try to determine upon what basis the water shall be divided among the states?

Now so far as I have thought--and I am saying this so maybe other members of the Commission will give me some answers to questions that I can't answer--I have studied a few compacts that have been made in the past. The Treaty we made with Mexico--the committee that was studying on that--I think we read every compact that was made in the United States and some foreign countries. We tried then to evolve a principle upon which an equitable division of waters might be made between states or between nations. I think Judge Stone will bear me out when I say the only conclusion that any of us could come to that approached a principle to be derived from those compacts was that they nearly always recognized present uses. Then when that was done, the water that would take care of potential uses was divided on some basis, peculiar to the particular locality.

Now the way I see this thing, if there is a way to make an allocation before we spend another year in getting important data that you probably will need when you go to formulating a compact to be administered, would be to decide now within the next few months, is there a basis on which this water can be divided that can be supported by each person in his own state when he goes before his legislature?

How could I go into the Legislature of New Mexico and say, "Mr. Bishop proposed this kind of an allocation: New Mexico, 450,000 acre feet; Colorado 4,000,000 acre feet; Wyoming, 1,200,000 acre feet, Utah 1,800,000 acre feet"? If the members of my legislature ask me, "How do you justify that? We sent you up there to try to negotiate a compact. Explain that to us, why that difference." Where am I going to find the answer? Nobody has suggested it yet in any of these meetings.

Now I have this to say about what I think is a principle and which is fair and which is equitable--at least I think it would be preferable, Mr.

Bishop, to the plan you submitted: On page 14 of the Report on the Colorado River, there is a column that I referred to this morning in the question I asked Mr. Riter, which has in one column, present depletion in the Colorado River Basin. In the Upper Basin it shows present depletions of 2,199,800 acre feet. Now in general terms we can say that is equivalent to present uses, I think. Now I believe that in negotiating any compact under the circumstances here that any state would be unreasonable that didn't recognize present uses. I believe I could explain that to my legislature and any other member of the Commission could explain that to his legislature, that we had to recognize present uses.

Now, if these are the figures, whether they are the figures that the Committee rectifies or whether we take these exact figures doesn't make any difference; but when you have recognized present uses as represented by this column under "Present depletion," we must assume that we have 7,500,000 acre feet of water to divide. I don't believe we can change that. We have got to assume that is correct and we are to divide that much water if it is available. If that water doesn't exist we can't divide it. So I think we have a right to assume there is 7,500,000 acre feet of water to be divided and if we assume that this much has already been used or is being used at the present time, you can subtract 2,199,800 from the total supply of 7,500,000; then you have taken care of present uses and you can divide the balance among the states.

Arizona has already made a statement to this Commission as to the amount of water it would be satisfied with. I think we can take that figure and add that to these depletions. Then you have a little smaller amount to divide.

Then upon what basis are you going to divide that, gentlemen? I would like somebody to tell me why four sovereign states to whom this quantity of water was allocated in perpetuity by the original Colorado River Compact, should not stand on the basis of equality. What reason can you give to say that after we have taken care of present uses that New Mexico or Wyoming, perchance, should have a much, much smaller quantity than Utah or Colorado?

Now the only answer I can think of would be that if you can convince me and Mr. Bishop that we couldn't possibly use that much and it would be a waste of water to allocate it to us, you would be justified in taking it and giving it to some other state. I think that, gentlemen, is the only thing that would justify any allocation after you have taken care of present uses other than on the basis of dividing by four.

Then you will say that might give New Mexico and Wyoming, or Utah even, water that they couldn't use. I do not think this would be true. There is no reason why you can't put in the compact that 15, 20, or 25 years from now you can review its provisions and if any state has been allocated water that can't be used, then change the allocations.

Now I believe if you approach it along that line you might arrive at a division of the water before spending another year or two years getting engineering data, and I say the engineering data is necessary but I don't believe it is so necessary to making an allocation. I know that the Chairman has toyed with that idea that there ought to be some way to divide this water without taking too much time and then get all the engineering data you need for administering the compact, but I believe the Chairman has given up.

I say those things because I have been thinking along those lines and if there is any other basis that each sovereign state can stand upon, I would like to know what it is.

COM. BISHOP: Mr. Chairman since the basis for the draft that I submitted has been mentioned by Judge Wilson, I would like to explain that the principal basis used by Wyoming in securing those figures was found in the depletion proposed in the 1945 tentative report of the Bureau of Reclamation, which, I would like to add, proposes a total depletion of 7,656,000, which is practically the amount of water we are trying to divide.

THE CHAIRMAN: Well, gentlemen of the Commission, the Chairman appreciates the remarks of Judge Wilson. He certainly expresses his ideas clearly and concisely regardless of whether you agree with him or not, and those ideas are appreciated by the Chair. Are there any further remarks?

COM. WATSON: Mr. Chairman, speaking for Utah, I will say that we agree with the principles enunciated by Judge Wilson, namely, that there should be a division of the water during the time this engineering data is being assembled.

COM. STONE: May I in view of Judge Wilson's statement make this suggestion: His statement was based solely on the question of apportioning the water. There was no reference whatsoever in his statement as to the determination of the obligations to deliver water at Lee Ferry. I apprehend that these states, whether we like it or not, are obligated under the Colorado River Compact to deliver on the average 7,500,000 acre feet of water each year at Lee Ferry. This Engineering Advisory Committee is now engaged in matters which go to that question. And if on the basis of these engineering studies we don't have 7,500,000 acre feet to divide, we ought to know it.

I apprehend that the determination of obligations at Lee Ferry is of more importance, if we intend to carry out the Colorado River Compact, than the apportionment of the water because the apportionment of the water is dependent to a considerable degree upon the obligations and ability to meet the obligations at Lee Ferry.

THE CHAIRMAN: Well, Judge Stone, the Chair would like a little information. Possibly someone can furnish it. Would it make any difference whether the 7,500,000 is there if the water was divided on a percentage basis, percentage of whatever is there? Of course, I would say also, though, that we must resolve it down to the tributaries as to benefits and obligations in each state. I have asked a question and also made an observation. Now can anybody answer that first question or does anybody think he has an answer?

COM. STONE: My answer to it is that there is not yet sufficient information available upon which a state can pass judgment on the apportionment of this water unless we accept some arbitrary basis of equal division over and above present uses; and it seems to me that there are many factors that have to be considered in making an equitable apportionment of water.

Personally I would not expect that we are going to take a year or two years to go into all the refinements of these studies. Furthermore, I believe that we can suggest questions and matters which must be determined by this Commission that are going to take considerable time and there is no reason why we shouldn't be going ahead with those matters while this Engineering Advisory Committee is working. And possibly when we get those questions answered and agreed upon, the Engineering Advisory Committee will be ready to give us the figures and the data upon which we can reach final conclusions.

THE CHAIRMAN: Gentlemen, we mustn't lose sight of the fact that there is a motion before the Commission. I don't want to cut off any

discussion of the motion. Whenever you are ready for the question you may call for it.

COM. STONE: If there is no further discussion I call for the question.

COM. CARSON: Mr. Chairman, I am not sure I entirely understand the motion. It related to pages in this report as I understood it, especially pages 53 to 59, inclusive. In glancing hastily through it I don't find the reference to the report on the flow of interstate tributaries at state lines and the uses that are being made in each of the states from that tributary source or the potential uses of that tributary in each state.

MR. RITER: Mr. Carson, it is not the intention of the present Engineering Advisory Committee to deal with potentialities. We are trying to deal with--

COM. CARSON: Have you set up in here anywhere or do you propose to report on the flows at state lines of interstate tributaries with present uses from those tributaries?

MR. RITER: Yes, sir. I think probably the reference should have been over to page 61. Page 59 kind of chops off part of the job.

COM. STONE: I understood that went to page 61, didn't it?

COM. CARSON: Mr. Watson desires to amend it to go to page 61. Does that include then the question of tributary flows at state lines and the present uses within the states of that tributary water?

MR. RITER: Well, it isn't defined in those terms, Mr. Carson. It just mentions contributions by states but we will of necessity have to analyze it by tributaries.

COM. CARSON: I think from my point of view it is very important that we do have that flow of interstate tributaries at state lines and at least the present uses in each of the states on that tributary. I think at the last meeting of this Commission it was suggested that each member of the Commission look over the Bureau report as to potential uses on those tributaries and be prepared to discuss it if there was any question about it. With that motion amended as it has been amended I am ready for the question.

MR. PATTERSON: Mr. Watson, may I suggest we gave you bad advice when you asked how to cover that, by saying 59. It was intended to cover everything under this heading of "Analysis," including 60 and 61, all of the text. Would that remedy your motion? There was no intention to cut that last part. If you could change your motion to read 61 instead of 59--

COM. WATSON: Mr. Chairman, before you place the question may I make just a comment on the motion?

THE CHAIRMAN: Certainly.

COM. WATSON: It is the State of Utah's desire to see this Engineering Advisory Committee go ahead and continue its studies. We will lend them all adequate help that it is possible. However I think upon the passage of this motion it would be well for each state to make a statement to the Commission explaining the basis upon which a compact should be made. New Mexico refers to present use and wants the water divided equally. Wyoming refers to the 1945 apportionment as set out in the Bureau of Reclamation report. Colorado wants water

contribution to be considered. Utah wants potential and present use. Now wouldn't it be well for each state to make a written statement to the Commission setting out the basis upon which it would like to make a compact?

COM. STONE: That goes to a question of procedure which should be decided upon after we dispose of this motion I should think. Question on the motion as amended.

THE CHAIRMAN: Well, before you vote on that motion the Chair would like to feel sure that when these engineering studies are completed that you will have the data in such shape that each state can say that its obligation at Lee Ferry and its benefit in the allocation will be outlined for the tributaries. I may be confused on that but it seems to me in the final compact it will have to be specified how much of so many hundred thousand acre feet or "X" percent of the water available must come out of the tributaries of each state. Now may I ask you, Mr. Riter, if that will be available. In the continuation of these studies, will that be made available?

MR. RITER: Well, it may not be made available in the exact detail which you want. We are studying the Colorado River and its tributaries. Now we have taken what we considered the principal tributaries and we will of necessity have to analyze the tributary in order to get the sum total of the whole. Our objective is to determine the contributions by states and I understand Mr. Carson desires, from the interrogation he gave me at Santa Fe about a year ago, the contributions by states and by tributaries.

I believe that we will have a reasonably close answer to what you want. It may not be in as great detail as you would like to see it, but we will probably have to amend the studies as we go along and as the Compact Commission makes headway and makes up its collective mind on the form the compact will take. I can foresee that we may have to make some additional studies to give the Compact Commission additional information.

THE CHAIRMAN: Are you ready for the question? (Question is called for. Thereupon a vote was taken and Com. Watson's motion as amended carried unanimously.)

COM. WATSON: Mr. Chairman, may my suggestion be considered now in the matter of procedure, that each state enumerate the facts it considers necessary in arriving at a compact?

THE CHAIRMAN: Go ahead, Mr. Watson.

COM. WATSON: I move that each state, excepting Arizona, render to this Commission a statement tomorrow morning containing the basis on which it thinks a compact should be made as well as factors that are important.

THE CHAIRMAN: Is there a second to Mr. Watson's motion?

COM. WILSON: I will second it.

THE CHAIRMAN: Are you ready for the question?

COM. STONE: No, Mr. Chairman. I move to amend that motion to provide that the Commission, after we have disposed of the consideration of the statements of the Federal agencies according to the order of procedure outlined by the Chair when we convened, limit our action at this time to a consideration of the factors involved and not a statement of the apportion-

ment and I assume the obligations at Lee Ferry, which is encompassed by Mr. Watson's motion.

In support of that amendment may I explain the reason for it. First, as to the order of procedure: The Chair outlined an order of procedure for us at the beginning of this meeting today, this session; and he suggested after we disposed of the engineering report we take up the report or the comments of the Federal agencies. Those comments have been prepared and submitted to this Commission. It seems to me that we should in any logical order follow that suggested by the Chair, that that be the next item to be considered at this session, and after that has been disposed of then we can take up other matters.

I am heartily in favor of making as much progress as possible. I don't believe that any state is in a position or should be in a position to make a statement encompassed by Mr. Watson's motion until the factors involved have been taken up and discussed and considered. And Colorado is willing to proceed with a consideration of the factors but does not want to be committed now to making a statement of its position on the question of the allocation of water or of the determination of the deliveries at Lee Ferry. I therefore submit my amendment that it be limited to consideration of the factors.

THE CHAIRMAN: Com. Watson, do you accept the amendment?

COM. WATSON: Yes.

THE CHAIRMAN: Does the second accept the amendment?

COM. WILSON: I will accept it.

THE CHAIRMAN: Are you ready for the amended motion?

COM. STONE: My idea was that after we got through with these statements of the Federal agencies that we would start in on it, see how far we get at this meeting.

COM. WILSON: In other words, it would be factors that should be considered in making an equitable division of the water?

COM. STONE: Factors and questions that are involved, yes.

COM. WILSON: Without regard to data that might be necessary to carry out the compact?

COM. STONE: And without regard to any state taking a position of policy as to the apportionment of water but merely to discuss and consider the factors that are involved.

COM. WILSON: I think that is all right.

COM. WATSON: The question is on the amendment, Mr. Chairman?

THE CHAIRMAN: Are you ready for the question on the amended motion? (Question is called for. Thereupon a vote was taken and Com. Watson's motion as amended carried unanimously.)

Now, gentlemen, you have disposed of the matter of the continuance of the work of the Engineering Advisory Committee. Before this Commission adjourns it is the opinion of the Chairman that you should decide on when you want to have a progress report, at least from the Engineering Advisory Committee, and that probably will involve the time and place of the next meeting of the

Commission. I mention that at this time so we will not overlook it.

COM. STONE: Mr. Chairman, it seems to me that we shouldn't limit our activities to the time we get that report. I think we have got a lot to do if we take up these factors and I again reiterate that I do not believe that we are in a position to put a limit on this Committee. I don't believe we can be in a position to judge how long it will take and since this Engineering Advisory Committee is working as expeditiously as possible with all the help it has got, I assume our motion disposed of that.

THE CHAIRMAN: Very well, that may be the wishes of the Commission, that the matter is disposed of in that form.

(4:40 p.m., December 1, 1947, Recess.)

Denver, Colorado
December 2, 1947
9:00 o'clock a.m.

(All Commissioners present excepting Com. Wilson of New Mexico; Mr. John H. Bliss, State Engineer of New Mexico, sitting in for Com. Wilson.)

THE CHAIRMAN: The meeting will come to order. The first item to be considered this morning is the report of the Legal Advisory Committee. I believe Mr. Charles Carson is the Chairman of that Committee.

COM. CARSON: Yes.

THE CHAIRMAN: Mr. Carson, are you ready to submit your report?

COM. CARSON: The Legal Advisory Committee has been studying individually the question of compacts and going over compacts. We sent out two drafts that everybody has had. We of course have no form to submit to the Commission and can't have until the Commission tells us what to write, and when it does we will be able to put it in shape I think fairly quickly. People are getting their ideas in shape.

There is one thing that we thought probably should be in any compact that is finally written, the administration of any treaty or compact. The machinery I think should be incorporated in the compact itself and an agreement as to the administration of the treaty or compact if such is necessary. But with that we can't proceed to write any compact until we know what to write. Everybody is individually studying his own idea of what should be in a compact and getting language to meet whatever the Commission finally tells us to write.

THE CHAIRMAN: Mr. Carson, will you name the members of that Legal Advisory Committee?

COM. CARSON: Well, they are Jean Breitenstein, Attorney General Gray, Mr. Edward Clyde of Utah, Judge Wilson of New Mexico and myself, and Mr. Will of the Bureau of Reclamation, your adviser.

THE CHAIRMAN: Have you finished, Mr. Carson?

COM. CARSON: Yes.

THE CHAIRMAN: I wonder if any of the members of this committee

have anything to add to the Chairman's statement. Mr. Breitenstein?

MR. BREITENSTEIN: I have nothing to add. In my opinion the Legal Advisory Committee cannot draft any provision of the compact unless it is first directed by the Commission itself as to the principles involved in any particular section of the compact the Commission wants drafted. It would be presumptuous in my opinion for the Legal Advisory Committee to try to write a compact for the Commission.

THE CHAIRMAN: Of course, if we carry that reasoning out to a finality we will find ourselves travelling in a circle.

MR. BREITENSTEIN: If the Commission will tell us what particular provisions they want drafted--

THE CHAIRMAN: It seemed to be the opinion yesterday that the Commission couldn't move out of this charmed circle until the engineers finished their report, and now we hear that the Legal Advisory Committee can't do anything until the Commission agrees on something.

MR. BREITENSTEIN: Mr. Chairman, I don't agree with that line of reasoning at all. It seems to me that there are any number of questions which have to be resolved by the Commission and which can be considered in advance of any report of the Engineering Advisory Committee. If the Commission has once determined upon the principles which it wants put into language of the compact, tell the Legal Advisory Committee what they are, the Legal Advisory Committee I feel confident will draft the language, but the Legal Advisory Committee doesn't make the decisions.

THE CHAIRMAN: That is fine, Mr. Breitenstein. Do you anticipate that subsequent to the submission of the factors to be considered by each state Commissioner, that the Legal Advisory Committee will be in a better position then to do its job?

MR. BREITENSTEIN: If those factors are resolved by the Commission itself, yes.

THE CHAIRMAN: Yes, sir. Well, that is pinning it right down. That is the answer that I thought you would give. Mr. Clyde of Utah.

MR. CLYDE: I have only this to add, Mr. Chairman: We discussed last night that the committee individually or collectively is available to do research, render legal opinions on any special problem that the Compact Commission cares to refer to it for study, but I agree wholeheartedly with Mr. Breitenstein that the decisions have got to be made by the Compact Commission before we can draft the language to put into effect the principles which they say are controlling. I don't think the Compact Commission will have to prescribe every detail, point out every boundary line for us before we can submit a rough draft compact, but as of the present time I at least know of no principle that all of the Compact Commissioners will agree upon that we could write down in the form of a compact for submission, and that any attempt on our part to do so usurps from the Compact Commission the right which it has to make the decisions as to what it wants to have controlling.

So I think the whole Legal Advisory Committee is available and willing to do research and render opinions on any problem that the Commission will refer to us and ask for advice on it. But as far as presenting a compact to them now I think it is impossible.

THE CHAIRMAN: Well, the Chairman then infers from your remarks that

there are certain things to be done by the Commission before the Legal Advisory Committee can perform its function and we will bear that in mind as we proceed in our deliberations.

Mr. Will, do you have anything to add?

MR. WILL: I have nothing to add, Mr. Chairman.

THE CHAIRMAN: Is there further discussion of the position taken by the Legal Advisory Committee? Any questions that anyone desires to ask? (No response.) If not, I believe we are ready to pass to the next item on our agenda, and that's the consideration of the communications from the Federal agencies.

About two months ago the Chairman furnished the reporter the original letters from the Federal agencies. That was done at the request of the Commission. The reporter, Miss Price, made copies and furnished them to each Commissioner presumably for study.

(The communications above referred to are as follows:)

"THE SECRETARY OF THE INTERIOR
WASHINGTON

Nov. 12, 1946

My dear Mr. Bashore:

By letter dated October 1, 1946, you advised that you had been appointed the representative of the United States to participate in the negotiations of the States of the Upper Colorado Basin, looking to an interstate compact supplementary to the Colorado River Compact of November, 24, 1922, and requested the views of the Department as they relate to problems coming before the Compact Commission.

Attached is a brief memorandum outlining the specific interests of the action agencies of the Department, except those of the Office of Indian Affairs, in problems which may come before the Compact Commission. In addition, I am advised that you and other members of the Compact Commission have copies of the Department's proposed comprehensive report on the development of the water resources of the Colorado River Basin for irrigation, power production, and other beneficial uses, outlining in detail the interests and programs of the Department.

The statement outlining the interests of the Office of Indian Affairs in problems coming before the Compact Commission has not as yet been submitted to the Department for final consideration. However, it is expected that the statement will be received shortly; and, after a consideration thereof in the Department, it will be sent you at the earliest practicable date.

The Department of the Interior is vitally interested in the development of the entire Colorado River Basin in such a manner as will procure the maximum national benefits from the use of water, both on the land and in the form of power, with due regard to the interests of the Indians, the fish and wildlife resources, and the scenic and recreational features. The Department is also interested in the unified development of the Colorado River. No projects should be proposed or undertaken that will not fit into the comprehensive plan for the river or that will increase the costs or reduce the expected benefits of the final development. The Department, therefore, would like to have all proposals

analyzed from this viewpoint and believes that your own report on the compact should relate the proposal that is made to the full development of the river.

Sincerely yours,

(Signed)

Oscar L. Chapman
Acting Secretary of the Interior

Mr. Harry W. Bashore,
Federal Representative and Chairman,
Upper Colorado River Basin Compact Commission,
Mitchell, Nebraska.

Enclosure 284"

"INTERIOR DEPARTMENT VIEWS AS THEY MAY RELATE TO PROBLEMS COMING BEFORE
THE UPPER COLORADO RIVER COMPACT COMMISSIONA/

November 1946

Bureau of Reclamation

The interests of the Bureau of Reclamation in the water of the Colorado River Basin center around the operation and maintenance of existing Federal Reclamation projects, including all features thereof, and the construction, operation, and maintenance of additional Federal Reclamation projects in that and adjacent basins to the end of accomplishing the fullest practicable and economic development of the basin's water and other resources. Assurance of water supply for such purposes is necessarily of the deepest concern to the Bureau of Reclamation, and that agency, therefore, views present efforts at a compact among the Upper Basin States with utmost interest. It hopes that negotiation and ratification of a satisfactory compact may be completed at the earliest practicable date.

Potential projects, together with further indications of the interests of the Department, are shown in the departmental basin report of June 6, 1946, and attachments thereto.

National Park Service

The National Park Service administers 17 national parks and monuments wholly or partially within the Upper Colorado River Basin, having a gross area of 771,137 acres. Under Congressional mandate, the parks and monuments are administered so as "...to conserve the scenery and natural and historic objects and wildlife therein, and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Water rights involving the use of 62.50 second-feet of water in the 17 National Park Service areas have been perfected to the stage of permit, license, or decree, in conformity with the water laws of the several States. The visitors to these areas totaled approximately 932,000 persons in 1941 and 1,059,000 in 1946. Most of the travel was by private automobile, and the number of registered passenger cars decreased 15 percent between the two dates. The trend of increasing attendance has no apparent limit, and there is a possibility of acceleration as air travel becomes more common. The water demand, therefore, is subject to unpredictable increase. In addition, State parks and related types of recreational areas, and the recreational areas which will be developed in conjunction with the reservoirs being

a/ Not including those of the Office of Indian Affairs.

constructed or planned by the Bureau of Reclamation and the Corps of Engineers will require additional quantities of water proportionate to their use. For these reasons, the National Park Service favors a flexible compact which will not prematurely limit the allocation of land and water to the multiple purposes for which developments are being made.

The Service cooperates with other Federal and State agencies in planning for their park, parkway, and recreational-area programs, and serves them in an advisory and consulting capacity in all phases of their park and recreation problems. Of special significance in this connection is the planning for the protection, development, and use of the recreational resources of reservoir projects under control of the Bureau of Reclamation and the Corps of Engineers.

In 1941 the Service undertook a survey of the recreational resources of the Colorado River Basin as part of the studies and investigations for the formulation of a comprehensive plan for utilizing the waters of the entire basin. These investigations embrace the entire basin in order to assure that adequate protection is given the existing scenic, scientific, historic, and recreational resources, and that full advantage is taken of the additional recreational potentialities which may be made available through the construction of reservoirs proposed within the basin, with a minimum interference with present scenic and recreational features. Several areas in the National Park System in the Upper Colorado River Basin, including Rocky Mountain National Park and Dinosaur National Monument, would be directly affected by certain water-control proposals. A report on this survey is virtually completed and is expected to be available within the coming year.

National Park Service areas in the Upper Colorado River Basin, as of June 30, 1946, are listed in the following table:

	Total Area (acres a/)	Established
Arches National Monument, Utah	34,250	April 12, 1929
Aztec Ruins National Monument, N. Mex.	25.88	January 24, 1923
Black Canyon of the Gunnison National Monument, Colo.	14,465	March 2, 1933
Bryce Canyon National Park, Utah	36,010	June 8, 1923
Canyon de Chelly National Monument, Ariz.	83,840	February 14, 1931
Capitol Reef National Monument, Utah	36,393	August 2, 1937
Chaco Canyon National Monument, N. Mex.	21,478	March 11, 1907
Colorado National Monument, Colo.	18,311	May 24, 1911
Dinosaur National Monument, Utah & Colo.	209,744	October 4, 1915
Holy Cross National Monument, Colo.	1,392	May 11, 1929
Hovenweep National Monument, Utah & Colo.	299	March 2, 1923
Mesa Verde National Park, Colo.	51,333	June 29, 1906
Natural Bridges National Monument, Utah	2,650	April 16, 1908
Navajo National Monument, Ariz.	360	March 20, 1909
Rainbow Bridge National Monument, Utah	160	May 30, 1910
Rocky Mountain National Park, Colo.	259,416	January 26, 1915
Yucca House National Monument, Colo.	10	December 19, 1919

Fish and Wildlife Service

The Upper Colorado River Basin, because of the high value of fish and wildlife resources, and because failure to give them adequate consideration in a basin-wide plan of water development would result in large

a/ Gross area includes 34,744 acres of non-Federal lands

and irreplaceable losses, is an area in which the Fish and Wildlife Service has a great interest.

Fishery values, particularly for trout in the tributary streams, are extremely high. Fur-animal and upland-game values are also high. With regard to big-game values, the basin equals or surpasses those of any area of comparable size in the United States. The economic importance of these resources, measured in terms of sales of hunting and fishing licenses, sales of sporting goods, and tourist, angler, and hunter expenditures in the field total millions of dollars. In addition to these measurable values, there are vast esthetic and recreational values associated with fish and wildlife which cannot be expressed adequately in monetary terms.

The natural water courses are the most important single factor in the wildlife habitat of the Upper Colorado River Basin. Hence, any plan for allocation and development of water, to be truly comprehensive, must give full consideration to conservation and enhancement of fish and wildlife values.

Following is an annotated list of particulars concerning interests of the Fish and Wildlife Service in the basin.

Fish

The tributaries of the Upper Colorado River rise in the mountains of Colorado, Wyoming, and Utah. The clear, cold streams and associated lakes provide excellent fishing for cutthroat trout, rainbow trout, mackinaw trout, and brook trout. In the warmer, silt-laden waters of the main stem of Colorado River and Green River, the channel catfish is the principal species.

There is no Federal fish hatchery in the basin, but a number of hatcheries maintained by States are important in supplementing natural propagation in waters situated on Federal lands. The hatcheries, all devoted to culture of trout, are as follows:

Wyoming	Daniel
Colorado	Glenwood Springs
do.	Steamboat Springs
do.	Pitkin
do.	Cedaredge
do.	Durango
Utah	White Rocks
do.	Loa
do.	Fish Lake

Water-development plans should provide for protection of these plants or for replacement of values lost.

Waterfowl

Present waterfowl habitat in the basin is limited, but the Colorado and Green Rivers offer opportunities for development of additional feeding areas which would increase the number of birds. The Stewart Lake Refuge, maintained by the State of Utah at the confluence of Ashley Creek and Green River, is an example of a successful area of this kind. The only Federal refuge in the basin is the Strawberry Valley Refuge, Utah, which is maintained by the Bureau of Reclamation, Department of the Interior, for waterfowl and sage hens. The Fish and Wildlife Service desires to establish refuges on Granby Reservoir and on Lower Gunnison River, Colorado, on San

Juan River, New Mexico, and on Green River, Wyoming. Water-development plans for the basin should give special consideration to the protection of the small existing areas of marsh suitable for waterfowl.

Upland Game

Upland game birds include several species of grouse, particularly the sage hen, which is fairly numerous along the Yampa and Duchesne Rivers. Ptarmigan are found in the high mountain country of Colorado, and wild turkeys still maintain small numbers in the upper reaches of the San Juan River in Colorado and New Mexico. Pheasants are abundant in the region about Vernal, Utah, and provide hunting for a large number of hunters.

Big Game

Undoubtedly, the mountainous parts of the Upper Colorado River Basin constitute one of the outstanding areas for big-game hunting in the United States. Deer abound in most of the basin and elk are numerous in the higher elevations. Moose are found in the wilderness areas of the headwaters of Green River. Several large herds of mountain sheep occur in Colorado, and remnants elsewhere in the basin.

Trans-mountain Diversions

A number of proposed water-development projects involve the diversion of water from the Upper Colorado River Basin to adjacent watersheds. In general, the Fish and Wildlife Service views such diversions with misgivings, for they tend to detract from values in the originating basin without creating commensurate values elsewhere. Another danger lies in the possibility of extending the range of undesirable species of fish.

Pollution

Pollution of the Upper Colorado River is negligible at present. However, wastes from mines, mills, and smelters threaten to create problems in the vicinity of Rock Springs, Wyoming, and Price, Utah. When certain pollutants are permitted to enter reservoirs, they may accumulate and reach lethal concentrations. For that reason, provisions should be made for abatement before a reservoir is constructed below a major source of pollution.

Lower Colorado River Basin

Water-development programs for the Upper Colorado River Basin should give due attention to the water requirements of the Lower Colorado. The Fish and Wildlife Service has a major interest in the Lower Colorado River Basin, for it administers in that region eleven wildlife refuges with a combined area of 4,335,920 acres.

Bureau of Land Management

The Bureau of Land Management has no special water interests within the Upper Colorado River Basin that would materially affect, or be affected by the larger water developments which have been planned by the Bureau of Reclamation and other Federal agencies, since this Bureau makes no direct diversions from the Colorado River.

Water developments on the Federal range consist solely of stock-watering facilities in the form of small earthen reservoirs, water wells,

and spring developments. Loss of water incident to these developments is practically negligible, consisting of a comparatively small amount of consumption and evaporation. This small loss is materially offset by certain advantages which will accrue to the larger reclamation developments, such as retarding runoff, reducing erosion, and decreasing transition of silt.

Stock-water developments which might in any way affect a larger basin development may very readily be modified or adjusted to accommodate the interests of those concerned. Moreover, it is anticipated that thousands of acres of present range land will be included within future reclamation developments. These lands, of course, will be reclassified to the higher use of agriculture.

Geological Survey

Article V of the Colorado River Compact provides as follows:

"The chief official of each signatory State charged with the administration of water rights, together with the Director of the United States Reclamation Service and the Director of the United States Geological Survey shall cooperate, ex-officio:

(a) To promote the systematic determination and coordination of the facts as to flow, appropriation, consumption and use of water in the Colorado River Basin, and the interchange of available information in such matters.

(b) To secure the ascertainment and publication of the annual flow of the Colorado River at Lee Ferry.

(c) To perform such other duties as may be assigned by mutual consent of the signatories from time to time."

The Geological Survey suggested that a provision in the proposed compact of similar import and specifically naming the heads of the Bureau of Reclamation and the Geological Survey in association with appropriate officials of the affected States will be helpful in assuring the collection of adequate water facts for dealing with problems of the Upper Basin.

The conditions of the compact will have a deep influence on the future development of the States of the Upper Colorado River Basin, and it is most important that they be established in the light of all available and relevant information concerning the Colorado River Basin waters and their economic utilization. The Geological Survey in its capacity as a Federal fact-finding agency in the fields of geology, topography, and hydrology, as well as in fulfillment of the responsibility implied in Article V as above quoted, will be pleased, to the fullest extent practicable, to assist in the effective application of its accumulated information to the problems involved and to place at the disposal of Mr. Bashore its facilities for collecting needed additional information.

Bureau of Mines

The Bureau of Mines' main interest in the water resources of the Colorado River Basin is for the development of power for mining and metallurgical industries. The major problems of water rights in dispute between the upper and lower basins are of very little interest to it. However, it is concerned also with the use of water for transportation, for direct use in mining and metallurgical enterprises, and for domestic use for mining communities, together with the resultant problems of pollution, sedimentation, and water

treatment. The program of the Bureau of Mines on water utilization is quite fully outlined in the Department's report on the Colorado River, copies of which are available to the Compact Commission.

Compiled November 4, 1946, from statements furnished by the interested agencies."

 "UNITED STATES
 DEPARTMENT OF INTERIOR
 Office of Secretary
 Washington

OLU 753.4

November 20, 1946

Mr. Harry W. Bashore,
 Federal Representative and Chairman,
 Upper Colorado River Basin Compact Commission,
 Mitchell, Nebraska.

Dear Mr. Bashore:

By letter dated November 12, 1946, Acting Secretary Chapman sent you a memorandum outlining the Interior Department views as they may relate to problems coming before the Compact Commission of the Upper Colorado Basin.

An error has been noted in the material relating to the interests of the National Park Service. In the fifth line of the fourth paragraph on page one of the memorandum, it is stated that "Most of the travel was by private automobile, and the number of registered passenger cars decreased 15 percent between the two dates." The word "decreased" should have been "increased." The National Park Service advises that the figures compiled from the reports from the various areas show that there were approximately 27,425 more automobiles in 1946 than in 1941.

Will you please make the above correction in the material sent you.

(Signed) Lee Muck
 Chairman,
 Water Resources Committee."

CC: Mr. Demaray

 "THE SECRETARY OF THE INTERIOR
 WASHINGTON

Nov. 27, 1946

My dear Mr. Bashore:

Under date of November 12, in response to your letter of October 1, you were advised concerning the views of the bureaus and offices of the Department of the Interior as they may relate to the problems which are under consideration by the Upper Colorado River Basin Compact Commission. The views of the Office of Indian Affairs were not included in that communication since the report of that agency was not available at that time.

The views of the Office of Indian Affairs have been incorporated in a memorandum dated November 25, 1946, from Assistant Commissioner Zimmerman, Office of Indian Affairs, to the Executive Officer, Water Resources Committee, together with a tabulation showing an estimate of

the amount of Upper Colorado River Basin water that is required for irrigation of the Indian lands. Two copies of this memorandum and tabulation are attached.

If the Department can be of further assistance to you in connection with your negotiations with the interested States looking toward the formulation of a compact, please advise me.

Sincerely yours,

(Signed) C. Girard Davidson
Assistant Secretary of the Interior.

Mr. Harry W. Bashore,
Federal Representative and Chairman,
Upper Colorado River Basin Compact Commission,
Mitchell, Nebraska.

Enclosure 288."

"UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Indian Affairs

Nov. 25, 1946

MEMORANDUM

TO: Mr. W. G. Hoyt, Executive Officer
Water Resources Committee

FROM: Commissioner of Indian Affairs

SUBJECT: Departmental Views on Problems Confronting the Upper Colorado
River Basin Compact Commission

Complying with your Memorandum of October 11 with which you enclosed a copy of letter dated October 1 to the Secretary from Mr. Harry W. Bashore, the following information and data, which express the views of this Bureau, are submitted for inclusion in the proposed Departmental statement.

On June 7, 1946, the Department approved "A Comprehensive Report on the Development of the Water Resources of the Colorado River Basin for Irrigation, Power Production, and Other Beneficial Uses in Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming", prepared under the supervision of the Bureau of Reclamation, dated March 22, 1946. That report is otherwise known as "Project Planning Report No. 34-8-2." Pages 347 to 359 thereof contain a detailed description of Indian irrigation projects in the Colorado River Basin.

In an effort to assist the Upper Colorado River Compact Commission, the Indian Bureau (based on its surveys completed to November 1, 1946) has prepared a one page summary of Indian irrigation projects in the Upper Colorado River Basin, a copy of which is enclosed. It is our position that the water rights for these Indian reservation lands were perfected rights to the beneficial use of waters of the Colorado River system long prior to 1922, and that, by the provision of Article VIII of the Colorado River Compact "they are not impaired" by that compact. It is also our position that these Indians' perfected rights were specifically recognized by Article VII of the Colorado River Compact.

An examination of the tabular summary will disclose that of the eleven projects described, only Numbers 5, 6, and 8 are new. Item 8, the Shiprock Project on the Navajo Reservation, while listed as a new project, so far as construction and actual irrigation features are concerned, is actually an old project in that the Indian Bureau has carried it on its program of projects for approximately 30 years. The Indian Irrigation Service and others have made reconnaissance surveys from time to time in an effort to locate suitable reservoir sites and establish feasible canal locations that would enable the Navajo Indians to irrigate all their good land within the limits of practicability. The ultimate acreage shown in "Item 8" has been carefully studied for quality and all of it is class 1 or class 2 soil.

Item Number 7 covers units where the Navajos have been irrigating since 1903, and in some of the units probably before that date.

Item 2 in the tabulation refers to the Pine River Project, with adjudicated rights established by a Federal Court decree wherein the United States, as guardian of the Indians, was awarded a priority of July 25, 1868.

Item 9 covers the Uintah Project in Utah where the United States and the Secretary of the Interior, as Trustee for the Indians, were awarded the first and prior right to divert and use the waters of the Uintah, Lake Fork, and White rivers for irrigation and domestic purposes, by Federal Court decrees in which the Indians, through their guardian, were awarded a priority "that antedates the third day of October, 1861." The Indians also own the first and prior right to divert and use water from Duchesne River, with an 1861 priority for the irrigation of about 17,453 acres of their land.

The United States District Court in Colorado and Utah, in the cases above-mentioned, followed the law established in the leading case of Winters v. United States (207 U.S. 564, 52 L.Ed. 340) that the Indians, or their sovereign guardian for them, are entitled to divert and use waters from streams bordering, running through, or arising on their reservations, with a priority as of the date a reservation was created, and that such right entitles them to use enough of the waters thus described, as may be required to irrigate their lands adequately.

Under that doctrine, which has been the rule of law for the last forty years, the Indians of each reservation enumerated on the enclosed tabulation, own the right to divert and use enough water from the streams mentioned in the tabulation to irrigate their lands, with a priority as of the date their respective reservations were created.

Surveys made by the Indian Bureau and completed to November 1, 1946, show the acreages of irrigable Indian lands in the Upper Colorado River Basin dependent upon a water supply from the Colorado River and its tributaries in the amounts shown in the enclosed tabulation. The priorities for these rights for the acreage shown are believed to represent the minimum needs of the Indians, and are fully justified under the doctrine of the Winters case. It is believed that the respective states recognize these prior rights of the Indians and that they will continue to cooperate with the Department by conceding such priorities.

This Memorandum and the tabulation are submitted in order that those engaged in negotiating a compact or agreement to effectuate an equitable division among the states entitled to use of Colorado River

water apportioned to the Upper Basin by the terms of the Colorado River Compact, may continue the negotiations with full knowledge of the respective Indian Reservation irrigation requirements.

In the preparation of the Departmental statement for submission to Mr. Bashore, it is urged that the contents of this Memorandum and the tabulation be incorporated, so that the Upper Basin representatives may have our best estimate of the amount of Upper Basin water that is required for irrigation of the Indian lands.

(Signed) William Zimmerman
Assistant Commissioner."

Enclosure"

SUMMARY INDIAN IRRIGATION PROJECTS
UPPER COLORADO RIVER BASIN
BASED UPON SURVEYS TO NOV. 1, 1946
ESTIMATED DIVERSIONS AND STREAM DEPLETIONS IN ACRE FEET

ITEM	STATE	PROJECT	SOURCE OF WATER SUPPLY	PROJECT AREA-ACRES		ANNUAL DIVERSIONS		STREAM DEPLETIONS	
				PRESENT	ULTIMATE	PRESENT	ULTIMATE	PRESENT	ULTIMATE
1	Ariz.	Misc. units Navajo Res.	Misc. springs & streams arising on Navajo Res.	8,740	22,000	43,000	110,000	10,000	25,000
		TOTAL ARIZONA		8,740	22,000	43,000	110,000	10,000	25,000
2	Colo.	So. Ute Res.	Pine River & creeks	8,400	19,850	25,000	58,000	15,100	35,000
3	"	Ute Mt. Res.	Mancos River	200	500	1,000	2,500	400	1,000
		TOTAL COLORADO		8,600	20,350	26,000	60,500	15,500	36,000
4	N. M.	Jicarilla Res.	LaJara & Dulce creeks	800	5,000	4,000	25,000	1,200	7,000
5	"	Animas LaPlata Monument Rocks Unit	Animas & LaPlata rivers	-	25,500	-	127,500	-	50,000
6	"	So. San Juan	San Juan River	-	22,000	-	110,000	-	25,000
7	"	Misc. units Navajo Res.	Misc. springs & streams arising on Navajo Res.	12,000	22,500	60,000	112,000	14,000	25,000
8	"	Shiprock Proj. Navajo Res.	San Juan River	-	117,000	-	585,000	-	260,000
		TOTAL NEW MEXICO		12,800	192,000	64,000	959,500	15,200	367,000
9	Utah	Uintah Proj.	Uintah, Duchesne, Lake Fork & White rivers	77,000	77,000	232,000	232,000	115,000	115,000
10	"	Misc. units Navajo Res.	Misc. springs & streams arising on Navajo Res.	175	1,220	800	6,000	300	2,000
11	"	Uncompahgre	White & Green rivers	1,250	22,000	3,750	66,000	2,000	40,000
		TOTAL UTAH		78,425	100,220	236,550	304,000	117,300	157,000
		TOTAL BASIN		108,565	334,570	369,550	1,434,000	158,000	585,000

"WAR DEPARTMENT
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON

Refer to File No. ENGWF

5 November 1946

Mr. Harry W. Bashore
Federal Representative and Chairman
Upper Colorado River Basin Compact Commission
Mitchell, Nebraska

Dear Mr. Bashore:

Further reference is made to your letter dated 1 October 1946 to the Secretary of War in which you request, in connection with your duties as representative of the United States and Chairman of the Upper Colorado River Basin Compact Commission, a statement concerning interests and views of the War Department with respect to matters that may be affected by the negotiations. In my reply of 8 October 1946 I stated that your letter had been referred to the Division Engineer of the South Pacific Division for a report and that upon receipt of his reply you would be furnished a statement setting forth the Department's interest in the subject negotiations. That report has now reached this office.

It is understood that the Colorado River Basin states above Lee Ferry, Arizona, are to enter into negotiations with a view to apportioning the waters of the Upper Colorado River Basin among the respective states and that such apportionment shall admit of compliance with terms of the Colorado River Compact dated 24 November 1922. Since the sole purpose of the conferences is to apportion waters among the upper basin states, such negotiations are not considered within the purview of this Department. The Department is interested in the Compact negotiations, however, insofar as such negotiations may affect the development of plans which may be undertaken later for the utilization of the waters of the Upper Colorado River Basin. Parts of the Upper and Lower Colorado River have been declared navigable. The navigability of certain reaches of the Colorado River is not considered important at this time since it seems unlikely that navigation problems would be made an issue and such problems might better be resolved when construction plans are being considered.

The Department would also be interested in the engineering plan on all projects involving storage for flood control. The War Department's interest in flood control is based on the Act approved 22 June 1936 and amendments thereto and the Act of 22 December 1944 which require that the Secretary of War prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly, or in part, with Federal funds provided on the basis of such purposes and the operation of any such project shall be in accordance with such regulations.

If additional detailed data concerning the Department's interest in the Compact negotiations are desired, it is suggested that you communicate directly with Colonel Robert C. Hunter, the District Engineer at Los Angeles District, whose address is: 751 South Figueroa Street, Los Angeles 55, California.

Sincerely yours,
(Signed) R. C. Crawford
Brigadier General
Acting Chief of Engineers."

"DEPARTMENT OF AGRICULTURE
Washington

November 22, 1946

Mr. Harry W. Bashore
Federal Representative and Chairman
Upper Colorado River Basin Compact Commission
Mitchell, Nebraska

Dear Mr. Bashore:

Thank you for the opportunity afforded us, by your letter of October 1, 1946 to Secretary Anderson, to indicate the views of the Department of Agriculture on the problems confronting the Upper Colorado River Basin Compact Commission.

This Department feels that in advising the Commission you might well be guided by the following:

1. The waters of the Upper Colorado Basin should be utilized in such a way that the maximum possible benefit will accrue to the people of the United States.
2. Next to human consumption the highest use to which these waters may be put is the development and stabilization of agriculture.
3. The decisions of the Commission will, in a large measure, irrevocably fix the future agricultural economy of a vast region. In other words, the Commission has been made responsible for agricultural planning of a basic and momentous nature. It is important, therefore, that the agricultural problems and potentialities of the region be thoroughly explored and appreciated by the Commission.
4. Because of the far-reaching agricultural implications of the Commission's task, it should invite the advice and assistance of the agricultural agencies of the States concerned and, to the extent that interstate agricultural problems are involved, should draw upon, through you, the services of the Department of Agriculture.

I realize the limited usefulness to you of the very general guiding principles suggested. For this reason, I want you, as the representative of all interested Federal agencies, to feel at perfect liberty to ask this Department for any information or assistance you may require. I feel that our experts can be particularly helpful in advising you upon the agricultural factors which are involved including the relative agricultural merits of the lands on which the waters of the Upper Colorado Basin might be used and in forecasting the agricultural effects of contemplated projects. In our opinion, these are matters that should be given full consideration by the Commission.

To provide you with easy access to the information and advice obtainable from this Department, I am arranging for a member of my staff to get in touch with you in the near future. He will ascertain your desires and will serve as a convenient channel to all agencies of the Department.

(Signed) Sincerely,
Charles F. Brannan
Assistant Secretary."

"FEDERAL POWER COMMISSION
Washington 25

Feb. 12, 1947

Mr. Harry W. Bashore,
Federal Representative and Chairman
of the Upper Colorado River Basin
Compact Commission,
Mitchell, Nebraska.

Dear Mr. Bashore:

With reference to your letter of October 1, 1946 relative to the negotiations by the States of the Upper Colorado River Basin of an interstate compact supplementary to the Colorado River Compact of November 24, 1922, I submit the following statement of views on the problems involved.

The interests of the Federal Power Commission may be summarized as follows:

The Commission (subject to the provisions of the Boulder Canyon Project Act and the Colorado River Compact) is authorized by Section 4 (e) of the Federal Power Act to issue licenses for hydroelectric power developments on the Colorado River, as a navigable water of the United States, and, prior thereto, to issue preliminary permits under Section 4 (f) and rule upon declarations of intention under Section 23 (b) of the Federal Power Act. The Commission also has comprehensive investigatory authority under Sections 4 (g), 7 (b) and 311 of the Federal Power Act which includes, in addition to various other phases of hydroelectric power development, the investigation, within the scope of its powers, of any occupancy of, or evidenced intention to occupy, the bed of the river, for the purpose of developing hydroelectric power and the issuance of such order as it may find appropriate, expedient, and in the public interest to conserve and utilize the navigation and water resources of the region. The Commission also has investigatory authority under various flood control and rivers and harbors acts, beginning with the Flood Control Act of 1938, for the purpose of making recommendations for the installation of penstocks or other similar facilities adapted for possible future use in the development of hydroelectric power in projects authorized to be constructed by the War Department by such acts. Furthermore, under the Federal Inter-Agency Agreement, dated December 29, 1943, the cooperative procedures of the Commission with respect to river basin work were broadened to include cooperative consideration of the water resources development plans and project studies of the Department of the Interior and the Department of Agriculture.

As the equitable division of the water of the Upper Colorado River Basin between the States of the Upper Basin is a condition precedent to its development for hydroelectric power and other water utilization and no alternative to such a compact is apparent except litigation between the several States in the Supreme Court of the United States, the Commission favors the early negotiation of such an interstate compact.

The first question which has to be resolved in such a negotiation would appear to be as to the nature of the compact.

Section 19 of the Boulder Canyon Project Act gives consent to the seven states of the Colorado River Basin to negotiate compacts supplemental to the initial Colorado River Compact of 1922 but apparently does not give consent to a compact by a lesser number of states, such as, those of the Upper Colorado Basin. The Upper Colorado River Basin is defined in Article II (f) of the Colorado River Compact of 1922 to mean "those parts of the

states of Arizona, Colorado, New Mexico, Utah and Wyoming within and from which waters naturally drain into the Colorado River System above Lee Ferry, and also all parts of said States located within the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters derived from the System above Lee Ferry." Only Colorado, New Mexico, Utah and Wyoming, however, are named as "States of the Upper Division", as distinguished from the "Upper Basin". California and Nevada, being States of the Colorado River Basin, and Arizona, a State having part of its territory in the Upper Colorado Basin, though not named as a State of the Upper Division, accordingly would have to be parties to any interstate compact negotiated under Section 19 of the Boulder Canyon Project Act. Cf. Transcript of Proceedings - Governors Conference in re The Colorado River Compact held in The House of Representatives, Capitol Building, Cheyenne, Wyoming, on Monday, July 12, 1946, page 32.

As alternative to a compact between all seven states of the Basin would be a compact between the five states of the Upper Colorado River Basin. There would seem to be no legal objection to such a compact, but it would appear to require further initial authorizing legislation, including an act of Congress giving consent, and the usual ratifying legislation, including an act of Congress approving the Compact when negotiated.

The next questions, after the form of the compact has been decided, would appear to relate to the legal basis for allocation of water to the Upper River Basin States and the priorities between the various uses of water.

With regard to the allocation of water of the whole Colorado River Basin, Article III (a) of the 1922 Compact apportions to the Upper Basin in perpetuity "the exclusive beneficial consumptive use of 7,500,000 acre feet of water per annum, which shall include all water necessary for the supply of any rights which may now exist" and guarantees delivery to the Lower Basin from the Upper Basin, for its exclusive beneficial consumptive use, of an equal amount of water. Article III (c) provides that the needs of the United States of Mexico shall be supplied first from the waters which are surplus over and above the amounts allocated to the Upper and Lower Basins by paragraphs (a) and (b) of Article III, and, if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the Upper Basin and the Lower Basin, and, whenever necessary, the States of the Upper Division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d). It is provided in paragraph (d) of Article III that the States of the Upper Division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre feet for any period of any 10 consecutive years reckoned in continuing progressive series beginning with the first day of October next succeeding the ratification of this Compact. Paragraph (e) of Article III provides that the States of the Upper Division shall not withhold water and the States of the Lower Division shall not require the delivery of water, which cannot reasonably be applied to domestic and agricultural purposes. It is finally provided by paragraph (f) of Article III that a further equitable apportionment of the beneficial uses of the entire river system unapportioned by paragraphs (a), (b) and (c) may be made in the manner provided in paragraph (g) at any time after October 1, 1963, if and when either Basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b). These provisions fix the maximum and minimum limits of the water available for apportionment among the States of the Upper Basin.

There is at present a further minimum guarantee of 1,500,000 acre

feet to Mexico (from the lower river) under the Mexican Water Treaty, ratified November 8, 1945, delivery of which, in case of drought or serious accident to the hydraulic works in the United States, may be curtailed pari passu with the curtailment of uses in the United States.

Any compact negotiated obviously will have to conform to and make provision for carrying out these allocations and guarantees.

With regard to the priority of uses of water, the compact makes express provision. By Article IV of the Compact, the use of the waters for agricultural and domestic uses is given highest priority. Agricultural uses include irrigation. Domestic uses may be said to include household, stock, municipal, mining, milling, industrial, and other like purposes. Uses for the development of power are subject to the priority of agricultural and domestic uses, but uses for domestic, agricultural, and power purposes have priority over navigation. The interests of the Federal Power Commission, as has been pointed out, primarily relate to power development and navigation. These provisions (taken in conjunction with state law) must govern any compact allocations as between different types of projects and uses of water within each state.

It is provided by paragraph (c) of Article IV of the Compact that the provisions of the Article shall not apply to or interfere with the regulation and control by any State within its boundaries of the appropriation, use and distribution of water. Section 18 of the Boulder Canyon Project Act also contains a saving clause as to rights which the states had on December 21, 1928, except as modified by the Colorado River Compact or other interstate agreement.

Because of the provisions of the Boulder Canyon Project Act, the Colorado River Compact of 1922 and other applicable provisions of law, the drafting of a supplemental interstate compact for the Upper Colorado River Basin has been carefully circumscribed as to allocations of water available for division among the States concerned and as to priority of water uses. In bargaining for shares of the available water, however, the States are free, within the circumscribed limits, to consider contemplated projects on a competitive basis, rank them according to their relative merit, and according to adaptability for early or later development. It is generally considered that the Colorado River has now reached a second stage of development, for which plans may now be made, but that it is not now practicable to plan, except in a preliminary way, for later stages of development.

From the viewpoint of the federal government, it is essential, of course, within the restrictions of existing law, to make provision in the supplemental compact for protection of the rights and interests of the United States, its permittees and licensees in the Colorado River as against the States. The interstate compacts adopted in recent years and the acts of Congress ratifying with them, beginning with the Republican River Compact (57 Stat. 86), suggest provisions useful for this purpose.

In accordance with established procedures of the Federal Inter-Agency River Basin Committee, the Commission has been given opportunity to review and comment on the comprehensive proposed report of the Secretary of the Interior, prepared, pursuant to the Boulder Canyon Project Act and the Boulder Canyon Project Adjustment Act, under the supervision of the Bureau of Reclamation and dated March 1946, which deals with the development of the water resources of the Colorado River Basin for irrigation, power production, and other beneficial uses in the seven Basin States.

This report presents for consideration 134 potential projects or units

of projects, most of which are multiple-purpose developments, for use of water within the natural drainage basin of the Colorado River, and also discusses potential projects for the transmountain diversion of water from the Colorado River Basin to adjacent basins. The report embodies an excellent description of the area, its physical and economic development, and the future possibilities for the region, and provides a practically complete inventory of water projects necessary for the full development of the water resources of the Colorado River Basin. Although the report does not set forth any comprehensive plan for the utilization of the waters of the Colorado River system for irrigation, electric power, and other purposes, it should serve as a useful guide in the selection of projects that will ultimately comprise such a plan and furnish a basis for further investigation by all agencies and states concerned. As the report makes clear, there will not be sufficient water for all of the 134 projects within the basin and for the prospective transmountain diversions and future studies will be necessary for final conclusions in these matters.

The Commission's regional office in San Francisco is at present engaged in the preparation of two reports relating to the electric power requirements in the Upper Colorado River Basin. These reports cover: Utah Power Requirements Survey, which is being prepared jointly with the Colorado River Committee of Utah and deals with the present and future electric power supply and the probable future power requirements of the state of Utah; and Colorado River Power Market Survey, which comprises a study of the power market in Utah, and Arizona, and portions of southern California, eastern Nevada, southeastern Idaho, southwestern Wyoming, and western Colorado.

These surveys have as their primary purposes the estimation of the future power requirements of the Upper Basin States and the determination of the possibilities of developing the water resources of the several states to supply these requirements and at the same time promote the economic and industrial development of the states. The report on these surveys should have an important use in complementing and supplementing further studies of the water conservation and power possibilities of the basin.

The purpose of the Federal Power Commission is to make a thorough investigation of the water power potentially available in the Upper Colorado River Basin and its relation to industry and agriculture, present and prospective. Power potentialities and water conservation for irrigation and other uses are both of great importance and benefits therefrom should be realized simultaneously. It is desirable that water power development be so programmed that an abundant supply of electric power will always be readily available or in immediate prospect, to attract industry to the region and give needed impetus to agricultural development. The water resources of the region should, of course, be developed in accordance with a well considered, coordinated plan expected to result from investigations now under way and in contemplation.

The Commission will continue its cooperation with the Bureau of Reclamation relative to development of the Colorado River Basin, and will gladly cooperate in every way desired with the Upper Colorado River Compact Commission in connection with the drafting of the proposed compact, by making available engineering data and personnel and the experience of its members in acting as representatives of the United States in the negotiation of other interstate compacts.

Sincerely yours,
(Signed) Nelson Lee Smith
Chairman."

"EXECUTIVE OFFICE OF THE PRESIDENT
BUREAU OF THE BUDGET
Washington, 25, D.C.

Nov. 15, 1946

My dear Mr. Bashore:

I have received your letter dated October 1, 1946, requesting information as to the views of Federal agencies regarding the deliberations of the Upper Colorado River Compact Commission.

It would appear that, in addition to the agencies mentioned in your letter, the International Boundary and Water Commission, United States and Mexico, of the Department of State, may be interested because of its treaty responsibilities, in the outcome of your negotiations. I would suggest that you communicate direct with the Commissioner at El Paso, Texas, to obtain his views.

This office will be pleased to cooperate insofar as possible with the Upper Colorado River Compact Commission and would appreciate being informed of decisions reached in your negotiations.

Very truly yours,
(Signed) James E. Webb
Director

Mr. Harry W. Bashore
Federal Representative and Chairman
Of the Upper Colorado River Basin
Compact Commission
Mitchell, Nebraska."

"INTERNATIONAL BOUNDARY & WATER COMMISSION
United States and Mexico
First National Bank Building
El Paso, Texas

Office of the Commissioner
United States Section

December 24, 1946

My dear Mr. Bashore:

This will acknowledge receipt of your letter of December 10, 1946, in which you requested a statement of my views with respect to negotiations of the States of the Upper Colorado River Basin looking to an interstate compact supplementary to the Colorado River Compact of November 24, 1922.

My interest in this matter, as you have pointed out, is because of the responsibility of this Section of the Commission in carrying out the provisions of the Mexican Water Treaty of February 3, 1944, in so far as they relate to the Colorado River.

I presume that the principal if not the sole purpose of the proposed interstate compact is to allocate among the States of the Upper Colorado River Basin the waters which were apportioned to that Basin as a whole by the Colorado River Compact of November 24, 1922. The only official interest which this agency, as a representative of the United States, would have in these negotiations and in the proposed compact is to safeguard the interests of the United States in complying with the Mexican Water Treaty. Article III (c) of the Colorado River Compact provides for the supplying of any water allocated to Mexico "first from the waters which are surplus over and

above the aggregate of the quantities specified in paragraphs (a) and (b); and if such surplus shall prove insufficient for this purpose, then, the burden of such deficiency shall be equally borne by the upper basin and the lower basin, and whenever necessary the States of the upper division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d)".

It seems to me that the proposed compact should specifically recognize this obligation and make provision for meeting the Upper Basin's share thereof, first out of the surplus and second out of the allocation to the States of the upper division as that allocation may be apportioned among them under the proposed compact. Such a provision must necessarily take into account the further apportionment contemplated by paragraph (f) of Article III. A specific provision of this nature would be preferable to, and perhaps render unnecessary, a general provision recognizing the rights and obligations of the United States such as is found in Article XVI of the Rio Grande Compact of March 18, 1938.

In the future administration of the "extraordinary drought" provision of Article 10 of the Treaty the United States Section should have all available information with respect to flows, diversions, and consumptive uses of water in the Colorado River Basin in the United States. Doubtless the proposed compact will provide for the interchange of such information by the signatory States. If so, it would be helpful if provision were made for making this information available periodically to this Section.

Other than these I presently have no suggestions to make, but I should be glad to have your views, not only as to these suggested provisions but as to any other which may occur to you as being desirable or necessary to protect the interests of the United States, particularly in so far as is concerned its Treaty obligations to Mexico.

I appreciate being given the opportunity to present my views.

Sincerely yours,
(Signed) L. M. Lawson
Commissioner.

Honorable Harry W. Bashore,
Federal Representative and Chairman,
Upper Colorado River Basin Compact Commission,
Mitchell, Nebraska."

THE CHAIRMAN: Now you have had those letters for a considerable time and the Chair assumes that you have studied them and may wish to consider them at this time. In fact, that was the understanding when your request was made, that they would be considered at a subsequent meeting.

In order to get the matters before the Commission I believe the Chair will have to call on some member of the Commission to present these various positions of the departments of the various Federal agencies as he sees it. Off the record. (Discussion off the record.)

The Chair now calls on Com. Stone to present Colorado's views in connection with the position taken by the various Federal agencies.

COM. STONE: I have carefully examined the statements which were presented here on behalf of interested Federal agencies and I find that

those statements are general in their nature. There is a general statement presented by the Secretary of the Interior. Attached to that statement is a general statement on behalf of the Bureau of Reclamation, National Park Service, Fish and Wildlife, Bureau of Land Management, Geological Survey, and Bureau of Mines. Later and after the general statement was presented on behalf of the Secretary of the Interior and the agencies of that Department, there was presented a statement by the Office of Indian Affairs.

There is also a statement by the War Department, the office of the Chief Engineer at Washington, D. C.; a statement by the Department of Agriculture; and one by the Federal Power Commission.

These statements are, in my judgment, not very helpful to the Commission. I should say they are largely innocuous. They do not, except for possibly the statement of the Office of Indian Affairs, present any information or position on behalf of the Federal agencies.

The specific interest of any Federal agency except possibly the Office of Indian Affairs, is not pointed out in any single statement. Some question is raised in the statement of the Federal Power Commission relative to the authority under which this Commission is acting in the absence of a specific act authorizing the making of this compact. That question has been resolved by this Commission at its organization meeting and in our organization meeting the Commission by its action disagreed with the Federal Power Commission on that subject. The Federal Power Commission however does not press the point.

All of the Federal agencies indicate a desire, a willingness, to assist the Commission in every way possible. We have eminent evidence of that fact on behalf of the Bureau of Reclamation, which the Commission greatly appreciates.

Referring again to the statement of the Office of Indian Affairs, there is attached a table which is helpful. That table presents the present and potential developments by the Indian Service on various tributaries in the Upper Colorado River Basin. It also sets forth the project areas of the Indian projects and the present diversions for those projects, the estimated ultimate required diversions, and in the last two columns submits the depletions of Colorado River water which will be required for the development of the Indian lands. The first of the last two columns sets forth the present depletions, which total 158,000 acre feet; and the estimated ultimate depletions, which total 585,000 acre feet. These depletions are also subdivided to show the amount in each of the five states of the Upper Basin.

It is estimated according to this table that the ultimate diversions for the Indian lands is 1,434,000 acre feet. Those figures will be very helpful to the Commission in the apportionment of water and the consideration of the apportionment of the obligations at Lee Ferry.

It is also noted that the Office of Indian Affairs discusses questions of law relative to the claim of the Indians to water in the Upper Colorado River Basin and seems to base largely at least, its claim on the case of Winters v. United States, a case which I am sure is understood or the principles at least are understood by the members of this Commission. So that statement is helpful in two respects: It gives an indication of the basis of the legal claim of the Office of Indian Affairs to water of the Colorado River for the Indians, and it indicates the present and prospective development of Indian lands in the Upper Colorado River Basin envisioned by the Office of Indian Affairs.

It is my position--feeling at least--that the Commission should have

from these Federal agencies the answer to two specific questions which are not answered by any of these statements except possibly the statement of the Office of Indian Affairs. The first one would be: What rights to the use of Upper Colorado River water does any particular agency have or claim on behalf of the United States? Second: What particular provision and what particular language should be incorporated in an Upper Colorado River Basin Compact to protect the right to the use of Upper Colorado River water held or claimed by any agency on behalf of the United States? Ultimately in my judgment those two questions must be answered by interested Federal agencies.

And in conclusion I propose that the Commission submit those two specific questions to these Federal agencies. We no doubt will find when we start to write the language of a compact that these Federal agencies will have much to say concerning the language which either does or does not specify the particular interest held or claimed to be held by a Federal agency.

THE CHAIRMAN: Thank you, Judge Stone. Com. Carson, what do you have to add to the statements that have been made?

COM. CARSON: I don't know, Mr. Chairman, that I can add anything to what Judge Stone said. I think it is true that before the compact is finally written and agreed on it is necessary that we clear with the Federal agencies because of the necessity of its ratification by Congress. If there is any question in the minds of any members of the Commission as to any particular agency and its position, I think it should be cleared somewhere along during the course of the negotiation of the compact so that we know what their claim is and what they desire in it. Otherwise, if we negotiated a compact, they might defeat its ratification in Congress. I think it is necessary that we understand what they want and they understand what we are doing.

But it is a question of timing there as to when it should be done. I confess I don't know on the timing. I should say we should clear it as best we can as we go along and then when we finally write up a draft of the compact, that we submit it to them at that time, get their approval on it before we finally execute it, or get suggestions at that time for changes also.

COM. STONE: May I ask Mr. Carson a question? You know it is only human nature to have a certain pride of authorship. If this Commission adopts certain language relating to the interests and claimed rights and interests of the Federal Government and then submits it to the Federal agencies, there will be more difficulty in adjusting language which is proposed by this Commission than if in advance we have the specific language which these Federal agencies desire.

COM. CARSON: I don't have any objection to the submission of any question you want to submit to them, Judge. Don't misunderstand me there. What I mean is that we better clear it as we go and then after that, when we rough out a draft, I think we should submit it too and see whether or not we have conformed with their ideas.

COM. STONE: I submit that proposal on the basis of experience in the Arkansas River Compact, which is now under negotiation. That plan was followed there and it has worked very well because those specific questions were answered, language prepared to comply with them, and then re-submitted to the Federal agencies, and it is a means of starting the ball to rolling and accomplishing something definite right at the beginning of the formulation of a compact.

THE CHAIRMAN: The Chairman would like to know if any of the Commissioners have a copy of the letter which was written to these various agencies by your Chairman, the Federal Representative? Off the record. (Discussion off the record.)

The Chair would like to know from you, Judge Stone, and you, Com. Carson, if this general procedure that you have outlined applies to all these Federal agencies. As I recall it, the War Department was rather specific in its position. The Department of Agriculture, while it indicates its desire to be very helpful, seemed not by inference even to claim any interest in the waters of the Colorado River, and it might be possible that you could eliminate a few of these agencies from your general proposal.

COM. STONE: That is possible, Mr. Chairman. It may well be that in reviewing these letters it would not be necessary. However, I think that all of the agencies would be interested in the specific language which is designed to protect the rights to the use of water claimed or which may be claimed by any agency on behalf of the United States.

COM. BISHOP: Mr. Chairman, I would like to state at this point that the draft presented by Wyoming contains all of the paragraphs heretofore required by Federal agencies in compacts with which Wyoming has had to do.

COM. STONE: Mr. Bishop, I would like to say to you that in the recent Arkansas River Compact, language of that type which appeared in former compacts, and one of them was a Wyoming compact, was not acceptable to the Federal agencies. So I don't think we can generalize and say just because it was acceptable on one river it would be acceptable on another river. Every river is different and there are different interests.

COM. BISHOP: I don't disagree with your statement; I just wanted to bring it to your attention that the draft that we have does have all of those that have heretofore been required and it seemed to me it is a basis to start our negotiations on even though you don't agree with any paragraph of it.

THE CHAIRMAN: The Chair would like to be excused for a moment to see if he can find a letter written to these various Federal agencies and while I am making a search for that letter, I will ask Com. Carson to preside.

ACTING CHAIRMAN CARSON: Is there any further discussion on this question of Federal agencies?

COM. BISHOP: I don't object to the idea; in fact, I will go along with you. I just wanted to call your attention to the fact that this matter had been given consideration by Wyoming.

ACTING CHAIRMAN CARSON: Mr. Watson of Utah?

COM. WATSON: It seems to me that there is a question concerning our obligation to the Indian tribes that will ultimately come up before this Commission and that is whether or not it is an obligation of the entire Colorado River Basin to the Indian tribes, whether the Lower Basin takes care of its Indians and the Upper Basin takes care of its Indians, or whether each state takes care of the Indians within that state. These questions are bound to come up. I don't know the answer to them.

COM. STONE: That is largely a matter among the states rather than language which might be acceptable to the Federal agencies.

COM. WATSON: If the obligation to all the Indians in the Basin is

an obligation of all of the states, wouldn't that problem have to be considered?

COM. STONE: I think so. But, Mr. Watson, my point was that if we had specific language we could better analyze our own ideas insofar as the effect not only on the rights and interests of the states but also the claimed rights and interests of the Federal Government. I would just like to mention this specific instance. I think experience is always a fairly good teacher and it was found in the Arkansas River Compact that the language which was incorporated, and which followed largely, on one particular point at least, some language in the Belle Fourche Compact--it did include some particular reference to situations on the Arkansas River--but when that same language acceptable to the Federal Power Commission was submitted to the Corps of Army Engineers and the Department of the Interior, there was objection to it.

ACTING CHAIRMAN CARSON: Mr. Bliss, what do you think of that idea of asking these specific questions Judge Stone suggests?

MR. BLISS: Mr. Chairman, I would like to observe this, that New Mexico is vitally interested in the Indian problem particularly. If you will take the tabulation which Judge Stone has referred to you will see that substantially two-thirds of the entire proposed consumption of water by the Indian Service will be made in New Mexico according to their present outlined program. I have no objection to requesting the Federal agencies for their statement as suggested by Judge Stone.

COM. CARSON: Judge Stone, I would like to suggest that you make a motion and designate the agencies requested to appear.

COM. STONE: Very well. Is that motion in order, Mr. Chairman, or do you have something you want to submit first?

THE CHAIRMAN: I would like at this point to read into the record a letter which was written by your Chairman and the Federal Representative to the various Federal agencies. I have before me the letter dated October 1, 1946, to the Director of the Bureau of the Budget:

"My dear Mr. Webb:

By letter dated July 17, the President appointed me the representative of the United States to participate in the negotiations of the States of the Upper Colorado River Basin looking to an interstate compact supplementary to the Colorado River Compact of November 24, 1922, and to make a report to the Congress on the proceedings and on any compact or agreement entered into by these States.

I can best represent the interests of the United States and advise the representatives of the States if I am fully informed of the views of all Federal agencies that have an interest in the outcome of the negotiations. To this end, I have addressed requests for their views to the Secretaries of War, Agriculture, and Interior, and to the Chairman of the Federal Power Commission. I have not been able to think of any other Federal agencies that are likely to be interested. If you know of any, I will appreciate your apprising them of my appointment and asking them to let me have, directly or through you, a statement of their views on the problems before the conference by November 11.

I will, of course, be glad to receive your and their help and advice at any time; it will be particularly useful to me, however, if

I can have at least a summary statement by the date I have mentioned in the preceding paragraph.

Sincerely yours,
(Signed) Harry W. Bashore,
Federal Representative and Chairman
of the

Upper Colorado River Basin Compact Commission."

A letter similar to this went to all of the agencies. As a result of this letter the Bureau of the Budget suggested that I write to the Chairman of the International Boundary and Water Commission, Mr. Lawson, and he replied. On December 10, 1946, I sent a letter to the Hon. L. M. Lawson, American Commissioner, International Boundary and Water Commission, United States and Mexico, El Paso, Texas:

"My dear Mr. Lawson:

By letter dated July 17, the President appointed me the representative of the United States to participate in the negotiations of the States of the Upper Colorado River Basin looking to an interstate compact supplementary to the Colorado River Compact of November 24, 1922, and to make a report to the Congress on the proceedings and on any compact or agreement entered into by these States.

I can best represent the interests of the United States and advise the representatives of the States if I am fully informed of the views of all Federal agencies that have an interest in the outcome of the negotiations. It has occurred to me that the International Boundary and Water Commission, United States and Mexico, of the Department of State, may be interested, because of its treaty responsibility, in the outcome of the negotiations. Will you not, therefore, be good enough to let me have a statement of your views as soon as practicable?

I will, of course, be glad to receive your help and advice, and to confer with your or your representative at any time."

That letter went to Mr. Lawson and you have his reply, and similar letters went to all of the agencies mentioned and you have their replies.

COM. STONE: Mr. Chairman, I did neglect in reviewing these to mention the International Boundary and Water Commission. The reply is here.

Mr. Chairman, I make this motion: That the Commission respectfully request the Chairman, who is the Federal Representative on this Commission, to direct a letter to all of the Federal agencies that have heretofore been contacted by the Chairman, asking them to answer two specific questions, namely: What right to the use of Upper Colorado River water does the agency have or claim on behalf of the United States? Second: What particular provision and what particular language should be incorporated in any Upper Colorado River Basin Compact to protect the right to the use of Upper Colorado River water held or claimed by an agency on behalf of the United States?

And that in connection with the letter addressed to the Office of Indian Affairs, that agency be asked to appear by its own representative at some future meeting of the Commission.

THE CHAIRMAN: Does the Chair hear a second to the motion as proposed?

COM. BISHOP: Mr. Chairman, I will second the motion. I would like to change just one word, "what right if any".

COM. STONE: That is all right.

COM. BISHOP: I will second it.

THE CHAIRMAN: Is there further discussion of the motion?

MR. BLISS: Mr. Chairman, I appreciate what Judge Stone has suggested that probably the proper thing would be to call a representative of the Indian Service in to discuss the Indian situation.

COM. STONE: Isn't this another way of finding out? At least we will have a better idea of their position.

MR. BLISS: Undoubtedly.

THE CHAIRMAN: The Chairman is a little bit in doubt about the wording of your motion, Judge Stone. I believe you can accomplish what you are after by a little different wording, and not being a lawyer I hesitate to comment too freely on it. But it seems to me it is not quite appropriate to request, in the form that your motion has it at least, a Federal agency to come before a body of this character for cross examination.

COM. STONE: It has been done frequently on other compacts. As a matter of fact, it has been my observation it is the usual practice. I recognize fully that a Federal agency may refuse to do so and there is nothing we can do about it but it has been my observation that these Federal agencies are cooperative in this matter.

COM. WATSON: They surely do that with the Reclamation Service.

THE CHAIRMAN: The point is if you would word your motion a little bit differently I think you would accomplish what you are after.

COM. STONE: I have no pride of authorship. If you want to use some softening words--

THE CHAIRMAN: "Invite"?

COM. STONE: --"invite", I certainly would incorporate it. Insert the word "invite" in my motion and strike the word "request." I see what you are getting at. Perhaps that is too blunt a way to put it. I think your suggestion is good, use the word "invite" instead of "request."

THE CHAIRMAN: Does the Commissioner who seconded the motion agree to that?

COM. BISHOP: I will accept it.

THE CHAIRMAN: Any further discussion of the motion?

MR. BLISS: It has been suggested, Mr. Chairman, that legal as well as engineering advice from the Office of Indian Affairs be solicited.

COM. STONE: I am willing to incorporate that in my motion.

COM. BISHOP: I accept it.

MR. GILES: Judge Stone, I am wondering about the wisdom of having the Chairman direct your specific questions in writing to these agencies if you are going to invite them to come in and discuss them. Is it only the

Office of Indian Affairs that you had reference to there?

COM. STONE: No, the two questions which I submitted go to all of the agencies. I can't see what is wrong in doing that. It merely makes it specific.

MR. GILES: I don't think there is anything wrong. I was just wondering about the strategy.

COM. STONE: The Chairman is merely transmitting the suggestion of this Commission and as Federal Representative it seems to me he is the appropriate person to do it.

MR. GILES: Well, he is the appropriate person to make the invitation that you speak of but you are also asking him to direct specific questions to them now which you want answered in writing.

COM. STONE: That is right.

MR. GILES: And in addition to that you are inviting representatives here to discuss with you the problem.

COM. STONE: That applies only to the Office of Indian Affairs.

MR. GILES: That was what I was--

COM. STONE: That doesn't apply to the others.

MR. GILES: I see. That clears it up, Judge.

COM. STONE: I take it that the Commission may want to invite other agencies later but at the present time the motion only goes to the Office of Indian Affairs except as to the specific questions and the Commission is suggesting to the Federal Representative that he ask them to submit answers to those questions.

THE CHAIRMAN: Miss Price, will you read that motion now again?

COM. STONE: Will you insert those words, "invite" instead of "request", and as to the Indian Service, "including legal as well as engineering," and the words, "if any."

THE CHAIRMAN: Read the motion now as it has been amended.

(Motion by Com. Stone, amended, read as follows: I therefore make this motion: That the Commission respectfully request the Chairman, who is the Federal Representative on this Commission, to direct a letter to all of the Federal agencies that have heretofore been contacted by the Chairman, asking them to answer two specific questions, namely: What right if any to the use of Upper Colorado River water does the agency have or claim on behalf of the United States? Second: What particular provision and what particular language should be incorporated in any Upper Colorado River Basin Compact to protect the right if any to the use of Upper Colorado River water held or claimed by an agency on behalf of the United States?

And that in connection with the letter addressed to the Office of Indian Affairs, that agency be invited to appear through its own representative at some future meeting of the Commission to discuss both legal and engineering phases of the asserted claims of the Indians.

THE CHAIRMAN: Are you ready for the question?

COM. WATSON: Question.

COM. STONE: I would like, Mr. Chairman, to direct a question to a man who we all recognize has had a lot of experience with Federal agencies, Mr. Will, and ask if there is anything there, any language, which he thinks ought to be changed.

MR. WILL: I don't think there is anything in that language to which any Federal agency could possibly take offense, Judge.

THE CHAIRMAN: Question has been called for. (Thereupon a vote was taken and Com. Stone's motion as amended carried unanimously.)

THE CHAIRMAN: In accordance with the action of the Commission yesterday to the effect that each Commission would make a submission for his state of a list of the factors to be considered in the negotiations, it appears to the Chair we are now ready for this submission provided the states are ready.

COM. WATSON: Mr. Chairman, since I made the motion may I make the comment?

THE CHAIRMAN: Yes, sir.

COM. WATSON: The representatives of the State of Utah are still working on this problem and we ask for a little more time to get that matter perfected so we can present our case to the Commission, either later this afternoon or at some meeting during this session.

THE CHAIRMAN: In line with your suggestion, Com. Watson, it may be that none of the states are ready at this time.

COM. STONE: Mr. Chairman, I wish to say that Colorado I think proposed the amendment to limit Mr. Watson's motion to a statement of factors. Colorado is ready to submit for the consideration of the Commission those factors. I am not too sure that what we have in mind is appropriately described as factors. It might be it would include other matters, or matters other than factors. It includes matters which in our judgment must be considered by this Commission before any final conclusions can be reached on an apportionment of water and the determination of the respective obligations of the states to make deliveries at Lee Ferry.

It is the view of Colorado that we want to aid in expediting this compact. We believe there is a lot of work for the Commission to do and we expect to submit matters which we think can be discussed and considered in advance of any further engineering report; and those matters we are ready to submit and I should like to ask Mr. Breitenstein to submit them.

THE CHAIRMAN: That is fine, Com. Stone. We will go right ahead, Mr. Breitenstein.

MR. BREITENSTEIN: This has to be an oral presentation. We did not have time to put it in written form for submission at this time, so I will have to do my best on an oral statement.

So far as the allocation of the beneficial consumptive use of the water between the states is concerned and so far as an agreement on a formula for deliveries at Lee Ferry is concerned, those are matters which involve further engineering investigations as we see them. One other matter definitely involves further engineering investigations. It is a matter which we feel

has not been considered and that is the method of measuring beneficial consumptive use. Obviously it does no good to apportion between the states the beneficial consumptive use of any amount of water unless there is some method provided for measuring the beneficial consumptive use.

Passing those matters which we feel involve further engineering study, there are certain matters which we believe can be considered. The first and probably the most important of all is what administrative provisions shall be incorporated in the compact? It occurs to us that the compact cannot possibly be a satisfactory document unless it contains some provisions relative to administration. That in itself raises other questions:

What shall be the form of the administrative agency? What members shall there be on the administrative agency? What power shall the administrative agency have? And in that regard specifically, shall the administrative agency have the power to adopt rules and regulations, or shall it have some restricted power to adopt rules and regulations?

Then if you have an administrative agency there will probably have to be some fulltime employees. How shall the expenses of those employees be met? Will the United States participate in meeting such expenses?

Another matter which has come up in other compacts with which we are concerned is a question of whether or not the compact shall operate for a fixed term or in perpetuity.

Another question which we believe merits consideration is: What provisions shall be made for a definition of the rights and obligations of the United States? And as a corollary to that a question of: How shall water uses made by the United States or any of its agencies be charged? Shall they be charged to the state in which the water uses occur or in some other manner?

Then in connection with the Upper Basin, we know from the report made by the Bureau of Reclamation that projects are contemplated for construction in one state for the benefit of another state. When you get into such projects you have several questions which come up according to our experience in other compacts. One is whether or not the power of eminent domain may be exercised in one state to obtain property for use in a project solely for the benefit of another state. Another question which has arisen in connection with another compact is: What, if any, reimbursement shall be made to a state in which a project is located for the benefit of another state for taxes lost to the state in which the project is located?

Then another is: What method of charging water uses shall be made when diversions, storage, storage releases, reservoir evaporation and like conditions take place in one state either for the sole benefit of that state or for the joint benefit of one or more states? Then probably as important a question as any is: What is the administrative control over diversions, storage and release of storage in one state for the benefit of another state?

Another factor which we must consider is the fact that there is a compact existing between Colorado and New Mexico over the La Plata River. It seems to us that some consideration must be given here as to the recognition of that existing compact.

Then you have an overall problem which has been suggested many times as to how the tributary basins shall be treated. For example, I apprehend that New Mexico may desire to have Colorado make agreements in connection with the use of San Juan River water as most of the supply of New Mexico may come from Colorado production in the San Juan Basin. That same situation, however, exists

on other tributaries. You have the Little Snake River which goes back and forth across the Line between Colorado and Wyoming, with diversions in each state for use in the other states. Then you have interstate tributaries between Utah and Wyoming and between Colorado and Utah. While these involve engineering matters it seems to us that some agreement must be made as to whether or not the upper state on any of those tributaries is under any obligation to maintain any particular flow in that tributary.

There are a number of other matters. One, of course, is: How shall main stream reservoir evaporation losses be charged? We all know the report of the Bureau contemplates a number of main stream reservoirs. Now obviously it wouldn't be fair to charge all that reservoir evaporation loss to the state in which the reservoir is constructed, but if it isn't charged to that state, how shall it be charged? Reservoir evaporation as we all know involves a lot of water and unless there is some method evolved of charging those evaporation losses, that will be the source of future controversy.

In connection with the same problem: How shall these main stream reservoirs be controlled? Who determines when you store water in those reservoirs and when you release water? Power plants are contemplated on those main stream reservoirs. In making the releases are you to be controlled by the desire of the power customers to have power or are you to be controlled by the desire of irrigation users to have holdover storage so that their uses may not be cut off?

Another matter which is probably legal is: How shall beneficial consumptive use be defined? I know that in one compact several days were spent in trying to arrive at a definition of consumptive use. Now in the Colorado River Compact you have the term, "beneficial consumptive use," which brings in another factor upon which there may not be immediate agreement: When is a use beneficial and when isn't it?

Another factor is whether or not the compact shall contain a provision giving any order of preference as between uses of water. You know the Colorado River Compact does. Shall we adopt the same provisions or shall we perhaps depart from them?

The engineers have mentioned the matter of conveyance losses of water. While it is fine to know there are conveyance losses of water, you have to determine two other matters it seems to me in order to have a complete compact: One is how these conveyance losses shall be measured; and another is how they shall be charged.

And the engineers have said there is salvage of water by upstream uses. Well, now, how shall that salvaged water be divided?

Of course in connection with all these things there is one which perhaps I should have mentioned sooner and that is: What powers shall be given an administrative agency to maintain the required flows at Lee Ferry? That goes back to your question of the administrative agency if one is decided upon. What is the extent of the powers which it has in requiring any state to deliver water?

That brings up another question as to whether or not the responsibility of maintaining the required flows falls upon the states or upon certain tributary basins in the states, or upon individual projects or groups of projects.

Another matter which perhaps goes into engineering matters is

whether or not beneficial consumptive use shall be divided solely between the states or as to whether or not there shall be a subdivision as between basins in the states.

Another matter which I think merits consideration is whether or not any division between the states shall be subject to future adjustment in the event that any state does not make full beneficial consumptive use of its share within a stated period. We are concerned here with the development to the fullest extent possible of a natural resource and if in the future it is found that one of the states doesn't use up all its share why should not that water then be used by another state?

Other matters which I think must be considered: What if any provisions existing in the Colorado River Compact must be carried over into this compact?

Another matter growing out of the Colorado River Compact and the Mexican Water Treaty relates to the supplying of the Mexican share in the event of deficiencies. How shall they be divided between the states?

Another matter which arises out of the Mexican Water Treaty relates to the provision for the flows to Mexico being cut down in times of extraordinary drought. Do we want to have anything in this compact which would relate at all to that provision of the Mexican Water Treaty?

These matters which I have mentioned are all of them matters which have been presented to me in connection with my discussions with water users all over the State of Colorado. Since the last meeting of the Commission I believe I have talked to representatives of every section of the State in which there is an interest in the Colorado River water. These questions are not just my own; they are questions which have been asked me. So far as a ratification of the compact in Colorado is concerned I feel that the Colorado Commissioner must be prepared to answer these questions; and it is my humble suggestion that many of them can be considered and determined without any delay resulting from the lack of completion of the study of the engineers. Thank you.

THE CHAIRMAN: Thank you, Mr. Breitenstein.

MR. BREITENSTEIN: Oh, yes, there is one matter I didn't mention which Judge Stone has just called to my attention. One question which comes up quite often in our discussions is whether the allocation of beneficial consumptive use of water between the states will be upon the basis of acre feet or a percentage. That is one of the first questions which is asked in any discussion of the matter and it is one of course which must be determined.

THE CHAIRMAN: At this point I believe we will recess for five minutes in order to give our reporter a rest.

(10:50 a.m. Recess.)

(11:10 a.m. Meeting resumed.)

THE CHAIRMAN: Gentlemen, we will come to order. Is the Utah Commissioner ready to submit his statement in regard to the factors to be considered by the Commission?

COM. WATSON: Mr. Chairman, as I understand, this Commission will be meeting Thursday morning. We will have a statement ready at that time.

THE CHAIRMAN: Very well. The Commissioner from New Mexico.

MR. BLISS: Mr. Chairman, the Commissioner is not here this morning and I believe we should postpone our statement until Thursday.

THE CHAIRMAN: The Commissioner for Wyoming.

COM. BISHOP: Mr. Chairman, Wyoming's group will meet during the lunch hour and be ready to report at two o'clock.

THE CHAIRMAN: Is the Commissioner for Arizona prepared at this time to submit his statement of the factors to be considered by the Commission in negotiation of the compact?

COM. CARSON: No, sir.

THE CHAIRMAN: At what time will the Commissioner for Arizona be prepared?

COM. CARSON: I don't know that I will. I am going to listen for a while here.

THE CHAIRMAN: The Commission will meet again Thursday and do you think it would be possible to get a list ready by that time?

COM. CARSON: Yes.

THE CHAIRMAN: Very well. Off the record. (Discussion off the record.)

COM. STONE: Mr. Chairman, there is one question submitted by Colorado which has been heretofore discussed to some extent. It is an important one, relatively simple as compared with some of the others, namely, the question of whether any apportionment of water shall be on an acre-foot basis or shall it be on a percentage basis. We do not mean that we attempt now to determine the percentage, but what is the basis, percentage or acre-foot basis? That is a question which because of previous discussion seemed to be appropriate to take up at this time and Colorado raised the question. I should like Mr. Breitenstein to lead off just to lay a basis for discussion.

THE CHAIRMAN: The Chair feels that that is a very good suggestion, Com. Stone, and we will be glad to have Mr. Breitenstein start the discussion on this question of acre-foot vs. percentage allocation.

MR. BREITENSTEIN: In the Colorado River Compact, of course, the acre-foot measure is used in the apportionment of the rights between the states. Now we come along twenty odd years after the Colorado River Compact and hear the engineers say perhaps there wasn't as much water in the Colorado River as the negotiators of the Colorado River Compact thought there was. That immediately raises the point as to whether or not we shall fall into the same error, if it was an error in which they fell in making a division between the basins.

The engineers have expressed doubt as to the total amount of water which will be available for use in the Upper Basin. That is a matter of course for them, not for any lawyer to talk about. But since the amount of water which may be available is an uncertain quantity, it seems to me--and I am expressing a personal opinion here--that from the standpoint of each of the states involved, the most satisfactory method of allocating the water is in terms of percentage and those terms of percentage can apply regardless of the amount of water which is available. And if you use terms of percentage rather than fixed acre-foot quantities, then you have a flexible method of

apportionment which can apply under all conditions and the proportion or the ratio or whatever the engineers call it is always the same.

So from my own standpoint it seems clear to me that there are great advantages in the use of the percentage method and no advantages for the use of the acre-foot method.

THE CHAIRMAN: Mr. Breitenstein, will you elaborate a little bit on that percentage question with regard to obligations on the part of the states and also with respect to the percentage relationship to the interstate tributaries?

MR. BREITENSTEIN: Well, now, you are getting down into refinements where perhaps an engineer should be talking rather than a lawyer.

THE CHAIRMAN: No, I think we will all appreciate what you have to say.

MR. BREITENSTEIN: First, I draw a distinction between the allocation of beneficial consumptive use to the states and the division between the states of the obligation to maintain the required minimum flows at Lee Ferry. It seems to me both of those can better be defined in terms of percentage rather than in terms of acre-foot quantities.

Now I have got to confess that in thinking of percentages I am thinking about states as a whole and not tributary basins within a state. It is my idea that the obligation as to deliveries at Lee Ferry is, to use the words of Mr. Carson, a joint and several obligation of the States of the Upper Division; and while it is a joint and several obligation, nevertheless as between the states of the Upper Division those obligations should be in some manner fixed. Obviously it wouldn't be right to require the State of New Mexico to deliver 500,000 acre feet of water. But regardless of what formula is devised it seems to me that formula should be on a basis of a percentage.

On the tributaries you come into another problem. On the La Plata River Colorado already has a compact which requires the delivery at the State Line of amounts of water which are determined by the flows at an index station upstream. That is an existing compact which has been litigated in the United States Supreme Court. On other tributaries there is no such comparable situation. It may be that a lower state on certain tributaries will take the position that the upper state must maintain certain minimum flows at the State Line. I don't know about that. That is for the Commission to determine.

That may apply to all tributaries or it may apply only to selected tributaries, but regardless of what determination is made on that, it seems to me that the uses made in the upper state on such tributaries are uses which go to make up the total percentage of use to which the state is entitled, and the state-line deliveries go to make up the percentage of that state in providing the required minimum flows at Lee Ferry.

So it seems to me the matters of the various tributaries can easier be handled on a percentage basis, much more easily than on an acre-foot basis. If you required the delivery of fixed amounts of water in acre feet at the state line, you might run into a situation where Mother Nature just didn't produce that much water upstream. You are liable to run into trouble on that.

I feel that perhaps in discussing these matters I am treading on the toes of the engineers and I am no engineer, I am just a lawyer on this thing, Commissioner.

THE CHAIRMAN: Thank you very much, Mr. Breitenstein. That is a very

clear statement on that question. The Chair would like to hear a further discussion.

COM. BISHOP: Mr. Chairman, that is a matter that Wyoming has given considerable thought to and we agree with Mr. Breitenstein that the allocation should probably be made on a percentage basis; however, it is quite necessary to mention the 7,500,000 acre feet on account of the wording of the Colorado River Compact according to my judgment, and I think the compact should probably provide that, for instance, a state gets a certain percent of 7,500,000 acre feet. Well, they are entitled to that percent of the total available supply.

Now here is a situation which you will find that will come up and that is, some years one basin is much shorter of water than another. One basin will get 100 percent of their percent where it isn't available in another basin. And as long as the obligation at Lee Ferry is taken care of, that is rather immaterial I would think.

THE CHAIRMAN: Thank you, Mr. Bishop. Off the record. (Discussion off the record.) New Mexico?

MR. BLISS: Chairman Bashore, allow me to at least raise a question about the operation of such a proposal. I think Mr. Breitenstein's suggestion has merit; however it seems to me that in a good many cases--and I have in mind particularly the situation between Colorado and New Mexico--there will have to be in addition to the Upper Basin Compact, the subcompact or at least an agreement between Colorado and New Mexico as to the allocation of the waters of the San Juan River.

Now my question goes to this point: How will the obligation of Colorado and New Mexico, for example, be determined as between the two states? Or, to enlarge it, how will the obligation of any state to deliver at Lee Ferry be determined? Will it be determined on some percentage basis or will the obligation of any state be determined on the basis of delivery of water at the state line in accordance with some index inflow of virgin water in the upper watershed of the stream in question? That was done in the case of the Rio Grande Compact in which the obligation of the two states of the upper part of the Rio Grande Basin to deliver is based on the inflows available for delivery and those obligations are in terms of acre feet, specific quantities.

I don't know just how that would fit into the obligation to deliver on the basis of percent. I am just raising the question; I am not saying it could not be done.

MR. BREITENSTEIN: May I say a word in answer to that?

THE CHAIRMAN: Go ahead, Mr. Breitenstein.

MR. BREITENSTEIN: First, I endeavor to recognize in the statement I have made that so far as particular tributaries are concerned, there may be an obligation agreed upon by an upper state to maintain certain minimum flows at the state boundary. When I made that statement I had in mind the San Juan River because I apprehend New Mexico is going to at least ask for the right to use some of the water that is originated in Colorado in the San Juan River.

MR. BLISS: I think you are right.

MR. BREITENSTEIN: In regard to that it would seem to me that

some use of the inflow index method might possibly be an acceptable method. However, so far as the maintenance of the required minimum flows at Lee Ferry is concerned, in the situation involved in the allocation between states of the water of a tributary such as the San Juan, to me there is no problem.

Say that in a certain year we are 10 percent short in making the minimum deliveries at Lee Ferry. That would be 750,000 acre feet, say. Now the obligation to make up those deficiencies, it seems to me, should be upon the basis of percentage, that each state should have the obligation of making up a certain percentage of that deficiency; and to me that can be easily worked into a situation such as Mr. Bliss was talking about.

COM. STONE: May I ask Mr. Bliss a question? Mr. Bliss, you said that probably there would have to be a separate arrangement between New Mexico and Colorado on the San Juan. That would be one method, a separate compact. But is it not conceivable that the situation can be taken care of as a part of this compact by some method such as suggested or indicated by Mr. Breitenstein? My question to you is: Does it necessarily follow that that cannot be taken care of in this compact?

MR. BLISS: No, I think you are correct, that it could be incorporated in the general compact.

THE CHAIRMAN: It occurs to the Chairman that the Republican River Compact takes care of that question very well. Of course it did it on an acre-foot basis. But the Republican River Compact specified the obligations and the benefits on the tributaries.

MR. BREITENSTEIN: That is right.

MR. BLISS: The need for agreements between states on specific tributaries is obvious. If Colorado were assigned any given percentage and elected for example, if it were physically possible, to take it all out of the San Juan, we would be in tough circumstances in our state.

COM. STONE: I think that would be manifestly unfair and in my judgment shouldn't be left to the good will of Colorado. The state situated as New Mexico is, in all justice ought to have explicit assurances either through this compact or a separate compact. And for the present it seems to me we ought to at least try to incorporate it in this compact because we all know the difficulties that arise in making any compact and we ought to attempt to take care of all these matters that can be taken care of in this Upper Colorado River Basin Compact.

MR. BLISS: That of course is not peculiar in New Mexico. It involves Colorado and Wyoming.

COM. STONE: I am just using that as an example.

THE CHAIRMAN: The Chair would respectfully suggest to each Commissioner that they examine the Republican River Compact in thinking of the question of the tributaries. Com. Carson.

COM. CARSON: Well, it seems to me that the percentage can work out very well. I think on those interstate tributaries, when a percentage is agreed to between these states, then they would have to break that down as to what part of that percentage would come out of one of these interstate tributaries and it would work out very well.

MR. BLISS: Supposing, Mr. Carson, that an interstate tributary between

New Mexico and Arizona, for example, were involved; we would be required to deliver to you some very small percentage of water based on the general delivery. Com. Bishop has pointed out that in the basin in many years the amount of water available varies considerably and if our available water supply is entirely inadequate we couldn't possibly deliver even though the water over the basin in general were sufficient to make those deliveries. That phase of the problem will certainly enter into the picture.

COM. CARSON: Yes, but then you can cover that as well by percentages as you could by any other method, couldn't you?

MR. BLISS: Perhaps.

COM. CARSON: The question here is whether it should be by percentage or specified acre feet. It would seem that the percentage would be equitable and fair.

MR. BLISS: I assume that in all these deliveries some latitude will be allowed.

COM. BISHOP: As I see it, Mr. Chairman, if and when the necessary storage reservoirs are completed the water will be there to take care of the obligation and the administrative agency should be authorized to determine what reservoirs to use the water from. It seems to me that that matter will be well taken care of eventually. In the meantime as I see it there is going to be plenty of water going on down to the Gulf of California.

THE CHAIRMAN: The Chairman may be not too clear on the trend of this discussion but apparently the thought is that you might by some provision in this compact be able in a year of shortage on one tributary to relieve that shortage at Lee Ferry by greater contribution from another tributary. If I understand that correctly that seems to be very complicated and would introduce very serious complications.

COM. BISHOP: Mr. Chairman, I would just like to mention the fact that the tree ring studies show there was a period I believe of 30 to 35 years that the San Juan was practically dried up. It seems to me it is such a big proposition we have got to have sufficient reservoirs to hold the water to take care of it and not impose on the San Juan, for instance, or maybe next time it will be the Green River that goes dry--the Green River hasn't however according to the tree ring studies. But I believe the future will prove that those things do happen. You are going to need the large storage capacity to take care of our obligation and where the water comes from makes very little difference after it gets in storage.

MR. BLISS: I would like to ask Mr. Breitenstein a question if I may. You suggest that the division be made on the basis of percentage; is that a percentage of each year's available water at Lee Ferry or the 10-year obligation or--

MR. BREITENSTEIN: In my opinion it should be a percentage of the available III.(a) water supply for the particular year.

COM. BISHOP: That is my idea exactly.

MR. BREITENSTEIN: Yes.

MR. BLISS: Then in any case where the available water supply were normal, say--supposing some stream was only 50 percent normal, it would be required to deliver a normal supply on the basis of your--

COM. BISHOP: It would if it was available.

MR. BREITENSTEIN: Of course, you have got to differentiate between the allocation of consumptive use of water and the division of the obligation to maintain the minimum flows at Lee Ferry. Obviously the water supply in each tributary basin is not the same each year. However, there should be no question of curtailment arise unless there is a deficiency at Lee Ferry and you would have the right to use the available water supply up to the percentage that is fixed and wouldn't worry about shutting off until you run into a deficiency.

So far as dividing it between two states, say Colorado and New Mexico, that to me is a separate problem from the division between all of the states of the beneficial consumptive use of the available water supply in terms of percentage and the division between the states of the obligation to meet Lee Ferry deficiencies in terms of percentage. As between Colorado and New Mexico I don't know enough about the factual situation to determine what would be a fair method of division. The Chairman has suggested the method used in the Republican River Compact. To me that raises another question as to how you are going to measure the consumptive use of that water. It might be--I don't know--that on the San Juan some simpler method could be devised by use of index stations as you have on the Rio Grande and on the La Plata.

But to me that is a separate problem from the one which I started in to discuss as to the allocation of consumptive use and the division of obligations on the basis of percentages and to me the percentage basis has the advantage of flexibility and will minimize the administration of the stream by whatever agency is set up to administer it, and will minimize the possibility of future controversies between the states.

COM. STONE: I think what Colorado has in mind in this discussion is simply this, that at the present time we can't get into all of the details as to how it will affect various tributaries or will work out, but whether as a matter of principle the Commission could agree tentatively that this appears to be the best method for the apportionment of the water and with appropriate relation to the delivery of water at Lee Ferry, and that that would be something of a directive to the Engineering Advisory Committee which would be an aid no doubt to their studies in determining upon what final action we should take, and that final action would necessarily be controlled to some extent at least by the application of this principle to the facts within the basin. In other words, that we wouldn't agree now that is an unalterable rule, but tentatively and on the basis of the facts that are known, we will attempt to make progress by agreeing upon the percentage method as against the method of a given acre-foot allocation. It seems to me we might find on some of these tributaries that some provision would have to be made to work out the equity between given states.

COM. WATSON: Judge Stone, doesn't the fact that the water must be delivered at Lee Ferry over a period of ten years solve the contribution of each tributary in the basin so that where there is a lack in one tributary, the other tributary may make up for it?

COM. STONE: That is possible and there is another question involved there, Mr. Watson, the question which I think was more or less touched upon by the Chairman, that this whole question as to deliveries at Lee Ferry is somewhat related to the question of whether the obligations at Lee Ferry shall be by states or by basins or by projects, another question which we raised in the list which Colorado submitted.

THE CHAIRMAN: The Chair would like to hear from one of the members of the Engineering Advisory Committee on this subject at this time. We will

adjourn pretty shortly but before adjournment I would like to hear from Mr. Patterson of Colorado.

MR. PATTERSON: I wonder under the discussion whether it is more advantageous to define the relative rights and obligations, and actually that is a brief statement of what you are undertaking to do. Your rights are relative; your obligations are relative. Therefore, the percentage system is very well adapted to expressing those relative rights and obligations.

On the other hand, I think it has been pointed out here and if I had been asked before to comment I would have gotten into a discussion with my copartner, the attorney for our Board, by saying that when you say "percentage" you have got to say percentage of what, and if you do say of what, it becomes a quantity.

The suggestion is made here that we undertake to divide the 7,500,000 acre feet of average annual beneficial consumptive use that is allocated by the existing compact among the four states of the Upper Basin--in this case the five states--to divide the use among five states. Of course that is related to the water supply. The Engineering Advisory Committee is not going to give you the answer that you are seeking through this discussion. We are going to try to tell you how much water there is in this river and from each of these states, the objective being to avoid some error on your part of obligating a state to deliver some water at Lee Ferry when Nature doesn't produce it in that state, and conversely, of allocating a right to divert and use and consume water to a state where it can't be used and therefore it will be wasted. So we are hoping to minimize that type of allocation and get a relation between these percents or these quantities and the thing that you are dealing with, namely, the water.

I want to point out just one thing from an engineering viewpoint and I am not speaking now for the Engineering Advisory Committee but merely as an individual. Our minds have been running almost exclusively to a consideration of the water supply from the standpoint of its long-time average. That is an important determination. Nature fluctuates the amount of water widely from year to year and by cycles. The assumption that goes with that determination of long-time average is that ultimately we are going to have reservoirs to equate that flow to that long-time average and therefore make it all available for use and consequently your dealing with the apportionment of use can be on a long-time basis.

On the other hand, this apportionment of the obligation is something that is wholly intermittent in character. It is meaningless except in a dry cycle of ten years and there you deal with a total quantity over a total ten-year period. Nobody knows in advance what the tenth year of that cycle is going to provide, what Nature is going to provide. Consequently, if at the end of nine years there is a potential shortage, it is essential that we have water impounded in reservoirs that can be released in that tenth year to meet that 75,000,000 acre feet obligation upon which the Lower Basin are basing their plans for the future.

It may be before we are done with this study that the Engineering Advisory Committee will conclude we will have to present to you information concerning the water supplies available in these ten-year drought cycles such as we had in the '30's in addition to information as to long-time averages; and that correspondingly, you will want information about how much does land consume in a period of water supply deficiency as compared to normal or average conditions? How much are reservoir losses under those drought cycle conditions? How much are you likely to export under those conditions as compared to long-time averages?

Personally I feel our Engineering Advisory Committee should immediately undertake their studies of the remaining work on both bases in order that you will have more complete information as to both the apportionment of use and the apportionment of delivery obligations. I feel that there is a good deal of thinking about them. Some seem to feel these two things are one and the same, others that they are unrelated.

From a physical standpoint it is very apparent that if a person knew how much water came out of each state or each tributary or did come out in an average year before man interfered with it, it would be very possible to say that if your development, your use, doesn't exceed a certain amount, it will necessarily follow that the unconsumed water of that state or that tributary or whatever you are dealing with will necessarily pass on down the river. So that there is a very definite relation between the one and the other.

Now I am not suggesting by this comment that your percentage schedule should be identical in both cases--don't misunderstand me on that. But I do think it would be folly to set up one that might be entirely in conflict with the possibility of living under the other schedule. So you have brought up a question I think at a very opportune time and I think your discussion of it and your final decision on it will be very helpful to us as engineers in proceeding with the character of the information which we complete and present to you.

THE CHAIRMAN: Thank you, Mr. Patterson. I would like to ask you just one question: If the Commission should decide at least tentatively that they will proceed on a percentage allocation basis as it relates to obligations and benefits, would that affect the studies of the Engineering Advisory Committee in any way? Would it be helpful or otherwise?

MR. PATTERSON: I will have to speak for myself again, Mr. Chairman, because I personally feel it won't make much difference, that we still have the problem of determining physical facts as to water supply. I think the bearing will be the other way, it will be indirect in this way:

You may now tentatively assume that the various percentages to each state for use will be based upon the assumption that we all together will use the 7,500,000 acre feet mentioned in the existing compact, but when you consider the delivery obligation along with it you may finally conclude that it won't be possible for you collectively to reach that amount considering the obligation of delivery. The two must not be separated from that standpoint.

Now let me explain a little further there. I feel you must know about the water and we must go ahead on that matter, and while this percentage arrangement would be one that I think ultimately the Commission and the Engineering Advisory Committee should cooperate in its discussion so that we can be as helpful as possible, I think we have got to watch this sort of a matter: As I see the percentage arrangement it could lead to this sort of difficulty, the progressive development of the basin toward whatever goal or ultimate limits water supply may fix, might proceed faster in one state than it did in the other and so that when you reached the halfway point one state would be beyond its percentage and some other state for lack of development would not have reached its percentage; and unless you have provisions for that you might find the percentage rule worked against the program of progressive development simply because the state who did go along with its development would exceed the percentage which ultimately it will have of a larger quantity. You could take care of that.

On the other hand I feel also that percentages as such are meaningless. They must be based upon something you can compute back in terms of water or else a state will not know in quantities of water what projects come within its share. It is not sufficient to say a percentage of all that is in the basin;

it has got to be reduced finally to the quantity of water which is within its percentage of the total water. So I am cautioning you that you could go too far on the use of percentage and find it was inconvenient or obstructive to your development.

COM. STONE: I would like to ask Mr. Patterson a question.

THE CHAIRMAN: I would like to comment just a minute, Judge Stone, before I forget it. Mr. Patterson has pointed out a very important phase of this in regard to the one state exceeding another in the rate of development. As your Chairman understands it, though, that might be taken care of in the compact itself, and if not taken care of in the compact it would be an obligation of the Commissioner of Reclamation and the Secretary of the Interior when a project is proposed for a certain state, to make a statement to the committees that that project falls clearly within the allotment of that state under the terms of this compact which may be ratified.

MR. PATTERSON: I think it could be handled that way. I am not objecting to percentage; I think it is an ideal thing. But I do want you to recall that the obligation at Lee Ferry on delivery is a fixed, stated quantity of water and in some way or other the people up above Lee Ferry are going to have to see that that quantity of water gets down there some way. How they divide up that obligation is a matter I think we have got to look at this way, that actually--expressed briefly--the objective of this whole compact is to divide up these two things, a right to use water and an obligation to deliver water on some proportionate basis that is in accordance with Nature and is equitable among the states. We are all trying to share proportionately and equitably in the amount of water available and also in the shortages we are all going to be confronted with.

COM. STONE: Mr. Chairman, following up your question--

THE CHAIRMAN: Just a moment, Judge Stone. I believe we should recess until two o'clock to give our reporter a breathing spell. Is two o'clock all right?

COM. STONE: Would a brief question be out of order? It follows your question.

THE CHAIRMAN: Very well.

COM. STONE: Mr. Patterson, if the Commission were to tentatively adopt--not finally but tentatively--the percentage basis, would not some progress be made by the Engineering Advisory Committee in checking to ascertain whether the percentage basis is workable?

MR. PATTERSON: I think we would have a very definite chore implied if not actually assigned to see how those tentative figures would fit in with physical conditions.

COM. WATSON: Mr. Chairman, will you allow a little observation or are you too hungry?

THE CHAIRMAN: We will come back together again at two o'clock.

(12:05 p.m. Recess.)

(2:00 p.m. Meeting resumed.)

THE CHAIRMAN: Will the Commission come to order. Before lunch Mr. Watson desired to make an observation or submit a question. Mr. Watson, you now have the opportunity.

COM. WATSON: What I wish to say, Mr. Chairman, is merely an observation on what Mr. Patterson so thoroughly analyzed when he discussed the division of water on a percentage basis. He showed that if we went too far even in that division we might find certain inadequacies or inequalities that would develop, showing that the division by percentage may not be perfect. The question arose in my mind if that were true, that a clause could be inserted in the compact stating that as between states of the Upper Basin there should be no priorities set up as to the water apportioned to the Upper Basin States by the Colorado River Compact. In that way there would be no race as to development. The states of slower development would then be protected in their rights.

THE CHAIRMAN: Gentlemen, at this point I desire to mention that we have with us this afternoon two gentlemen from the Office of the Chief of Engineers of the War Department. They are in Colorado at the invitation of the State of Colorado and are here at this meeting not in any official capacity but merely as observers and as persons who desire to learn something about the negotiations in regard to this Compact. Mr. Johnson and Mr. Friend of the Office of Chief of Engineers, will you gentlemen stand up just a moment, please? (Applause.)

MR. FRIEND: Correction, Mr. Chairman. Of the District Office at Los Angeles.

THE CHAIRMAN: Of course that comes under the Office of Chief of Engineers?

MR. FRIEND: Yes.

THE CHAIRMAN: I stand corrected as to detail but not as to the general operation of the District Office as being under the Office of Chief of Engineers.

Now pardon me, Mr. Watson, did you complete your statement?

COM. WATSON: It was merely in the form of an observation.

THE CHAIRMAN: Yes. Did the Chairman overlook anybody in asking for comments on the question of the allocation by the percentage method? The Chair would like to ask Mr. Riter, the Chairman of the Engineering Advisory Committee, the same question that was propounded to Mr. Patterson this morning, which is briefly this: that if the Commission tentatively at least agrees to work towards an allocation of the water on a percentage basis, will that have any influence on the work of the Engineering Advisory Committee, either in the way of retarding the work, prolonging it or shortening it, or if not in those respects, in what respects if any?

MR. RITER: It will not obviate the need of completing the work that has been assigned to us. We feel that is basic and should be completed. As I said, it will just be an added task that the engineers will work out but we anticipate we will get numerous added tasks as the work progresses.

THE CHAIRMAN: Will you please elaborate a little bit on the added burden this is going to create for the Engineering Advisory Committee? The Chairman doesn't understand.

MR. RITER: It is not an added burden, just an added consideration and added job. You see our activities so far have been directed towards defining the contributions by states and tributaries of the flow of the Colorado River at Lee Ferry and also defining the channel losses. Ultimately we will study the effects of reservoir operations. Now we haven't as yet indulged in any thoughts as to how the water would be divided. We anticipate however before the Compact is negotiated that the Commission will ask us to make additional studies on a number of assumptions the Committee would outline. I anticipate this percentage theory is a theory the Commission will want us to study. I don't know what form the Commission may ask us to study, whether they will make suggested percentages by states or whether they will ask us to try out a number of percentages.

THE CHAIRMAN: Well, Mr. Riter, is it a fact or is it a fallacy that regardless of whether the allocations of benefits and responsibilities are made on an acre-foot basis or on a percentage basis, you will have to do the same character of work in the Engineering Advisory Committee? Is that true or false?

MR. RITER: The work outlined so far must be completed regardless of how the Commission decides it is going to divide the water.

THE CHAIRMAN: Well, that still doesn't answer the question of the Chairman.

MR. RITER: I am trying to straighten you out, sir.

THE CHAIRMAN: If you will just answer the question that will straighten the Chairman out. Possibly the members of the Commission are straight on it. Will you please read the question? (Question read.)

MR. RITER: That is an involved question; I still don't understand it. I will answer it this way: Regardless of how you want to divide the water you will not have relieved us of the burden of completing the task that has been previously outlined.

THE CHAIRMAN: Off the record. (Discussion off the record.)

MR. PATTERSON: Off the record. (Discussion off the record.)

MR. RITER: I say so far as the present studies are concerned, the studies that have been outlined for us, it will make no difference how the Commission decides to allocate the water or allocate the obligation.

COM. STONE: Mr. Chairman, I don't desire to ask a question because I probably wouldn't get an answer to it but I should like to make this observation: It is very obvious that this is a question which must ultimately be decided by the Commission. It occurs to me to be quite obvious that if we reach some tentative conclusions--I don't mean final conclusions but tentative conclusions--which the Engineering Advisory Committee has in mind, it may not as to the present studies but as to future studies expedite our proceedings here. There is no reason why such questions as this can't be discussed and some tentative conclusions arrived at which ought to be something at least of a guide to the engineers in reporting back to us rather than wait until all of their studies are in and then say, "Now here is another question. Give us the answer on this one."

It may, as Mr. Riter explains, mean a little additional work at this time but it might save time to proceed in this manner. I make that merely as a personal observation.

THE CHAIRMAN: Well as a personal observation on the part of the Chairman I am of the opinion that it will save a lot of work eventually and that it will obviate the necessity of having the much sought for accuracy we have talked so much about because if the water isn't there, why no undue burden will fall on any state.

Now, gentlemen, we have talked about this a great deal and are you ready now to dispose of this question by a motion or resolution indicating the action on the part of the Commission?

COM. STONE: May I confer with Mr. Breitenstein?

THE CHAIRMAN: Yes. (Com. Stone confers.)

COM. STONE: Mr. Chairman, to get this matter before the Commission I move that the Commission tentatively agree that the apportionment of the benefits and the apportionment of the obligations to make deliveries at Lee Ferry under the Upper Colorado River Basin Compact be determined on a percentage basis.

COM. BISHOP: You mean by that the obligations would be the same percent as the allocations?

COM. STONE: No, I am not talking about the percent; I am talking about the basis.

THE CHAIRMAN: Do I hear a second?

COM. WATSON: I second the motion.

THE CHAIRMAN: It has been moved and seconded. Now the motion is open for discussion.

COM. BISHOP: Mr. Chairman, it seems to me our division should be on a percentage basis of the amount of water available to the Upper Basin States. It couldn't be more than that.

COM. STONE: It might be less than that.

MR. BREITENSTEIN: I won't agree with Mr. Bishop. There isn't any agreement on behalf of the Upper Basin States giving up the rights of those states to any surplus water.

COM. BISHOP: That has to be negotiated after 1963 after such time as the one basin or the other has reached the total of its allocation.

MR. BREITENSTEIN: Mr. Chairman, so far as the apportionment of the benefits is concerned it is a percentage of the available water supply. So far as the apportionment of the obligations is concerned, it is a percentage of whatever water is necessary to satisfy the deficiency in flows at Lee Ferry.

COM. STONE: It seems to me that Mr. Breitenstein's interpretation of the meaning of that motion is correct and as the one who made the motion I would suggest my motion carries that interpretation.

It occurs to me that there can be no other interpretation. We all know what the joint and several obligations of the States of the Upper Division are at Lee Ferry under the terms of the Colorado River Compact. No one can question but what that is explicitly provided by the Compact and is fixed at an average delivery of 7,500,000 acre feet a year.

On the other hand, the basis, or at least one of the reasons for a percentage apportionment, is that no one knows what from year to year will be available for use in the Upper Basin and this provides a flexible means whereby you would make an apportionment of the water which Mother Nature will make available in the Upper Basin.

I hasten to explain again that this is only tentative. Further studies by the Engineering Advisory Committee may indicate that we would want to deviate from that percentage basis.

COM. WATSON: Judge Stone, may I ask a question?

COM. STONE: Yes.

COM. WATSON: Would the difference between your proposal and Mr. Bishop's proposal be this: that Mr. Bishop refers only to the apportionment under the Colorado River Compact of the 7,500,000 acre feet, whereas you would apportion all of the waters, surplus or otherwise, and when the year for dividing surplus came, viz. 1963, the formula for the division of that surplus among the states of the Upper Basin would have been made?

COM. STONE: You have brought in an element I wasn't particularly thinking about but I think you have correctly stated how that would work. It is the amount of water available to the Upper Basin. It is entirely conceivable, although in my judgment not likely, that after 1963 more water may become available to the Upper Basin. It is also conceivable that because of the vagaries of Nature we may have long periods when a full 7,500,000 acre feet is not available even with main stream regulation for use in the Upper Basin, and we should have a flexible method whereby those conditions which are unknown at the present time can be taken care of and not just fix it on the basis of the percentage of so many acre feet. If the 7,500,000 acre feet apportioned to the Upper Basin is available and no more is made available it will work out the same in any event.

COM. BISHOP: My point is, Judge, that you can't allocate or divide any water over and above 7,500,000 acre feet and be within the terms of the Colorado River Compact. The division has to be taken care of after 1963 as provided by the Colorado River Compact; and any implication we are trying to divide that water certainly wouldn't be in accordance with the terms of the Compact.

COM. STONE: All right then let that motion read, "available under the terms of the Colorado River Compact."

COM. BISHOP: That is as I think it should be.

THE CHAIRMAN: Off the record. (Discussion off the record.)

COM. BISHOP: My thought is Wyoming might need a lot more than the four or six percent you might want to give us at this time. After 1963 we might have another 3,000,000 acres we would want to irrigate and we might want a much larger percent than what this Compact Commission might be willing to give us at this time.

COM. STONE: I apprehend, Mr. Bishop, to use the words "available under the Colorado River Compact," if you get more than that, will take care of you.

COM. BISHOP: We will go with you on that.

THE CHAIRMAN: Now are there any further comments on this motion?

CCM. STONE: As interpreted.

MR. BLISS: Mr. Chairman, I may be a little slow in understanding what is meant here. I hardly see how the states could endeavor to appropriate more than is allocated under the terms of the Compact. That has been modified by the Judge's latest amendment to his own motion. But I don't see that irrigation projects could be flexible enough to take much advantage of water over and above what might be allocated at the present time.

CCM. STONE: It seems to me, Mr. Bliss, that we should keep in mind another provision of the Colorado River Compact. It just occurs to me now--and I may be wrong in this thinking--but there is a provision in the Colorado River Compact that the Upper Basin shall not withhold water nor be required to deliver water which cannot be put to beneficial consumptive use. And you get into trouble when you attempt to confine a motion of this kind to the 7,500,000 acre foot item. That item under the terms of the Colorado River Compact is surrounded with a lot of conditions. It is quite obvious that being parties to the Colorado River Compact there cannot be available to us any water in excess of what is made available to the Upper Basin under the terms of the Colorado River Compact.

MR. BLISS: If you are speaking of channel and reservoir losses, for example, which might be allocated to the various states and considered as beneficial consumptive use, I see part of your argument.

CCM. WATSON: Mr. Chairman, could we have the motion read as amended?

CCM. STONE: Mr. Watson, I don't believe the suggestion, this last addition, was added to the motion. It was stated by Mr. Breitenstein and I accepted that as an interpretation of the motion. So to get at what you want I think we should have to read both the motion and the interpretation.

CCM. WATSON: May we have the motion and the interpretation read?

(Record read.)

THE CHAIRMAN: Are you ready for the question?

CCM. BISHOP: Question.

(Thereupon a vote was taken and Com. Stone's motion as amended carried unanimously.)

THE CHAIRMAN: Off the record. (Discussion off the record.)

CCM. WATSON: I would like to have the record show that upon the suggestion of one Commissioner this question may be opened up again.

CCM. BISHOP: That is all right.

THE CHAIRMAN: Off the record. (Discussion off the record.)

CCM. STONE: Mr. Chairman, this morning we were proceeding on the basis of Colorado bringing up for consideration the questions and factors which were submitted by the statement by Mr. Breitenstein. Do you desire now that we bring up another one of those or do you wish to call upon these other states for any statements as to factors of the nature made by Colorado? We do not wish as a state to shut off other states if they want to submit them now, but

if they don't we are ready to bring up another one of the factors or questions raised by the Breitenstein statement.

THE CHAIRMAN: It is the recollection of your Chairman, Judge Stone, that the states were called upon this morning. Utah and New Mexico will not be ready until Thursday, and Arizona will be ready then, to make their statement in regard to factors; but that Wyoming stated that state would be prepared to submit its statement of factors at this meeting. Com. Bishop, are you now ready to make that statement?

COM. BISHOP: Mr. Chairman, I have a statement of the factors we suggest to be considered. We may have additional factors later that we will wish to submit.

THE CHAIRMAN: Will you read those, Mr. Bishop?

COM. BISHOP: I numbered them for identification.

1. Method of making good any future obligation at Lee Ferry.
2. Shall transmountain diversions be made secondary to uses of water in the natural basin.
3. Determination of method of allocations, percent or mass acre-foot allocations.
4. Provision for administration of the compact if and when necessary.
5. Shall the waters of Blacks Fork and tributaries, Henrys Fork and tributaries between Utah and Wyoming, and Little Snake River and tributaries between Colorado and Wyoming, all interstate streams, be allocated by this compact.
6. Determine priorities of domestic, irrigation, and power uses of the water.
7. Determine if the compact is to be in perpetuity or shall it be renegotiated after thirty or more years.

Now what I have to say is not to be considered as a factor, I suppose, but our people want the Commission to know that we feel that unless a compact is negotiated no projects should be allowed or appropriations made for a continuation of any projects until there is a compact between the States of the Upper Basin.

COM. WATSON: Will you state that again please?

THE CHAIRMAN: Com. Watson is asking you to state that last portion again.

COM. BISHOP: I would like to have the secretary read it because I didn't state it like I had it set down.

(Record read.)

COM. STONE: May I ask a question on that last remark or statement by you, Mr. Bishop?

COM. BISHOP: Yes.

COM. STONE: Do you mean by your reference to appropriations for the continuance of a project that a project in Colorado or a project in Utah that is now under construction shall be discontinued and no appropriations made until the compact is consummated?

COM. BISHOP: No, what I mean, Judge, is that when this appropriation that has been made is exhausted there will be plenty of time between now and then for this compact to be completed, in my opinion, and if it isn't completed I don't think we should go any further with anything. As far as Wyoming is concerned we aren't in favor of it.

COM. STONE: You appreciate of course that ordinarily appropriations for projects are fully utilized by the end of a fiscal year. Then do I understand that if by June 30th, 1949, a compact has not been negotiated any project within the basin now under construction should not seek or be awarded an appropriation until a compact is made? Is that the meaning of your statement?

COM. BISHOP: Yes, sir. I might add that my reason is that I consider that to be adequate time for the Engineering Advisory Committee to complete their studies and for this group to get together on a division of this water.

COM. STONE: That is quite a penalty to place on present development which everybody desires and which provides the greatest basis for utilization of our water.

COM. BISHOP: I would say not in view of the fact that Wyoming has nothing to lose, and if we continue to go along under that plan, we won't be losing any more than we are losing now as we go along.

COM. STONE: That may be true as to Wyoming but after all as a group of states isn't it necessary for us to work in a mutually helpful manner rather than placing penalties on each other?

COM. BISHOP: We want to help you, Judge, but we want you to help us. We need your help much more than you need ours, as we have only one representative in the Congress of the United States and you have several.

COM. WATSON: Mr. Chairman, I would like to observe we have got to go together on this thing and if we are going to ask for a project in Utah, we would like Wyoming and Colorado to have their projects. I am sure we wouldn't feel like blocking the development of any project that has been authorized in Colorado.

COM. BISHOP: In view of the fact that we don't know just how much water you might need for that project, we wouldn't like to see you take more than your share of the water and we believe we should have a compact to settle that question.

MR. RITER: Mr. Chairman, may I indulge in an observation?

THE CHAIRMAN: Yes, sir.

MR. RITER: Gentlemen, let's not lose sight of the fact that we are only using now less than a third of the Colorado River Water that has been allocated to the Upper Basin. It seems to me there ought to be adequate cushion for any project, any reasonable project that is now on the books. It just seems--I am going to repeat to you again the warning I gave yesterday--while we squabble over the water somebody else is going to use it. That is just an observation.

COM. STONE: I would like to make another observation too, that such a policy as that is not only of concern to the states but it is of vital concern to the taxpayers of the Nation. You take a large project as the Colorado-Big Thompson and you stop all construction and all contracts that are now awarded, either the water users that will be served by that construction or the taxpayers of the United States are going to pay a penalty which will run into the millions of dollars.

COM. BISHOP: Judge Stone, if the representatives of Colorado realized that was going to happen they might be more interested in getting a compact.

COM. STONE: Mr. Bishop, I want to correct a statement that you have repeatedly made. I want to ask you by what rhyme or reason should Colorado not be interested in getting a compact and getting it at the very earliest moment? This state is just as much interested in the development as any state and we know that no substantial additional project authorizations can go forward until there is an apportionment of this water. If you can assign any reason why Colorado shouldn't be interested in getting a compact at the earliest moment possible I would like to hear it.

COM. BISHOP: I believe I can answer that, Judge. If we just go along the way we are going another ten to twenty years, Colorado will have used every drop of water that is possible for them to use; Wyoming won't have used any water.

COM. STONE: Your argument might be good if you will tell me how Colorado can get any substantial new project authorization without an apportionment of Upper Colorado River Basin water.

COM. BISHOP: That is the point.

COM. STONE: And I want to say to you that we are not interested in using any other state's water. Colorado recognizes an equitable interest in these other states and we can't see how we can ever encroach upon any water which is beyond our equitable and just share and we can't see any way whereby we could obtain new projects which will encroach upon other states of the Upper Basin. We recognize it is in the interest of all of the states to attempt to expedite the making of a compact. I apprehend that if Utah or Colorado or New Mexico or any other state in view of the report of the Bureau of Reclamation were to ask for a project which encroached upon or which exceeded or might exceed the state's assured share of water we would meet effective opposition, and unquestionably justly so.

COM. BISHOP: Judge Stone, I don't see how we are going to know what the assured percentage or allocation of the state is until we get together on a compact.

COM. STONE: That is what I have been saying.

THE CHAIRMAN: Now the Commissioner from Wyoming has submitted his factors and the other Commissioners will report Thursday morning, and I believe we are now ready to consider one by one the factors presented by Mr. Breitenstein before lunch, and Colorado may present those in any order she wishes.

COM. STONE: In view of the suggestion by the Chair, Colorado submits for consideration another factor suggested by the statement submitted by Mr. Breitenstein this morning, the question of the inclusion of an administration clause in an Upper Colorado River Basin Compact. We recognize

that it is not entirely logical to take up that item next. We further know that it cannot be disposed of except through considerable discussion because many matters are involved in administration, and we apprehend that all of the states will want to give that matter further study. However, it seems to us that we should at least discuss the question of whether such an administration clause should be included in an Upper Colorado River Basin Compact.

I am moved to suggest consideration of the next item due to a statement made at Salt Lake City by Mr. Wallace. Mr. Wallace stated he would be interested in connection with a resolution which he submitted, to know what the views of the Commission were on that subject before it was further considered by the Colorado River Basin States Committee. Is that not correct, Mr. Wallace?

MR. WALLACE: Yes.

COM. STONE: If that is correct, it would seem to me in the interest of making progress to suggest this subject for consideration at least partially at this time and I shall ask Mr. Breitenstein to open the discussion.

THE CHAIRMAN: Mr. Breitenstein, you have the floor.

MR. BREITENSTEIN: Well, Mr. Commissioner, in order to have any compact really effective it would seem that the compact itself should contain some administrative provisions. By that I mean that some agency should be set up which will have certain responsibilities and obligations towards making the compact effective.

Here in Colorado we have several compacts. In connection with some the matters involved in the compact are handled by the respective engineers of the states involved. In one compact, the Rio Grande, there is set up a compact commission consisting of representatives of each of three states and of the Federal Government. Mr. Bliss perhaps can tell more about the operation of the Rio Grande Compact Commission than any other person here in the room. While like any agency it has at times been the subject of criticism by one state or another, it is my observation that the Rio Grande Compact Commission has been an effective means of maintaining harmonious relations between the individual states and between those states and the Federal Government in effectuating the provisions of the Rio Grande Compact. In the Upper Basin of the Colorado River there are many problems more complex than those occurring in the Upper Rio Grande.

As to the form which such an agency should take, I have no fixed ideas. It would seem reasonable that there should be a representative of each state who might be a particular state official or the appointee of a particular state individual to serve for a term which might be for a definite period or might be at the will of some state official; and also that there should perhaps be one or more Federal Representatives on the agency, whatever it might be called. There are five states here and in view of the interest which the Federal Government has in the development of the River it might be appropriate to consider having more than one official. Also in that regard it might be well to consider the fact that there are several problems involved. One is the gaging of streams, a function which has been traditionally carried on by the United States Geological Survey in cooperation with the states. The other involves the use of large reservoirs which in all probability will be constructed by the Bureau of Reclamation and it seems only reasonable that the Bureau of Reclamation should have some representative on whatever agency is set up. Perhaps others should be; I don't know.

The next question is undoubtedly the powers which should be given to the agency and that involves the subquestion as to what powers if any should be given such agency to adopt rules and regulations to make the compact effective.

As I mentioned this morning another question is involved and that is, how are you going to take care of the expenses of such an agency? It might be found that the agency itself should have a staff of employees who would work for the agency and not for any particular state and not for the Federal Government. If you have such employees of course some method of paying them has to be resolved.

It seems to me that the question as to the general, overall powers of the agency should not be considered at this time but rather now we should consider whether or not such an agency should be set up and what its general character should be, leaving the question of powers perhaps to subsequent discussion. That is all I have to say right now.

THE CHAIRMAN: Thank you, Mr. Breitenstein. You have put the matter before the Commission very clearly in the opinion of the Chairman. The Chair would like to hear from members of the Commission and their advisers on this question. We will now have a recess of about five minutes.

(3:15 p.m. Recess.)

(3:30 p.m. Meeting resumed.)

THE CHAIRMAN: The meeting will come to order. The Chairman is rather pleased with the developments which have taken place today. I wish first to compliment Colorado in submitting a list of factors, also Wyoming, and we will reserve our comments after we have heard from the other states.

As I understand this situation the states are not insisting that these factors which they have presented be disposed of in a compact but they do present them for the earnest consideration of the Commission and action by the Commission as to whether or not these factors are to be disposed of in a compact which we have been talking about and if so in what manner. It occurs to your Chairman that as we proceed in the consideration of these factors it will likely become necessary to refer the "how" of disposing of some of these questions to the Legal Advisory Committee, who will undoubtedly examine existing compacts in order to have a guide in handling matters which this Commission may wish to have decided in the compact which we are trying to negotiate. Gentlemen, please bear that in mind in our progress on this matter. We should take definite action. Now off the record. (Discussion off the record.)

The Chairman would now like to hear from the Commissioners or their advisers relative to the matter which has been outlined by Mr. Breitenstein.

COM. BISHOP: Mr. Chairman, I believe Mr. Breitenstein is right that there should be an administrative body set up to administer the compact if and when necessary. It will probably be a great many years before there will be a shortage of water at Lee Ferry, and until that time there will be very little need for a compact commission. It seems to me that if the Bureau of Reclamation would be set up as the administrative agency they could well look after the necessary records and prepare for the administration of the compact at such time as a shortage of water at Lee Ferry would be obvious from the gaging records.

Mr. Breitenstein mentioned the fact that there should probably be on this commission a representative from each state and possibly two from the agencies. I will go along with him as far as one from each state is concerned, but it is twice too many from the Federal agencies. I think

one from the Federal agencies is all there should be and he could possibly be chairman of the commission. I don't believe the Federal Government should have two votes to the states' one. I believe in states rights and I believe we should maintain our position as states.

COM. STONE: May I refer to Mr. Breitenstein a question raised by Mr. Bishop? Mr. Breitenstein.

MR. BREITENSTEIN: Well, just one thing: I can't in my own mind get Mr. Bishop's statement to jibe. He says in the first place we have the Bureau of Reclamation run the River for a while and then at the end he says he believes in states rights. Well now to me the matters are utterly contradictory.

We in Colorado for years have gone on the theory that we will look after the affairs in our state and I apprehend there might be some difficulty in Colorado if the Colorado Legislature was given to understand that the Bureau was going to run this thing without regard to state agencies for any particular period of time. Now the latter part of Mr. Bishop's statement is right along with my personal thinking. I am a states right man; I admit that. It seems to me we have got to cooperate with the Federal Government because the Federal Government is putting up some of the money that is being used on these projects. I didn't mean to make a firm suggestion that this commission be composed of any particular number of men or anything like that. I thought that was something for discussion as to whether we have one Federal representative or two or a dozen. I didn't intend to cover that.

But it seems to me that if you are going to have an administrative agency you want to have it set up right away and not wait until you run into a wreck. Your administrative agency should be one to keep you out of trouble. You shouldn't wait to set the thing up until you get into trouble. So I think if you are going to have one at all it is important to have it set up and operating just as soon as you get your compact in effect.

COM. WATSON: Mr. Chairman, I think Mr. Breitenstein's analysis is sound and the principle is right. I suggest the matter be referred to the Legal Advisory Committee.

COM. STONE: For submission to the Commission, you mean?

COM. WATSON: Yes, and report back to the Commission.

COM. BISHOP: Mr. Chairman, what I had in mind was a commission to be composed of one representative from each state and one from the Bureau of Reclamation with the Bureau of Reclamation in charge of the administration under the supervision of the representatives from the states. That is what I had in mind.

THE CHAIRMAN: It would seem to the Chairman that this matter is subject to several divisions. In the first place, do you want to set up an administrative agency in the compact? That is the first question it seems to me which the Commission should decide. And if you decide that in the affirmative, the question then presents itself as to what is the character of this administrative agency? Will you use existing state officials and existing Federal officials to some extent or to any extent? I mention that for this reason, that you must remember these compacts will come before the legislatures of the states and they will probably be concerned about how much expense is involved in setting up an agency which may be the cause of greater taxation.

COM. BISHOP: My thought is, Mr. Chairman, that the Commission should consist of members of agencies already existing within the states and not set

up a new Commission that would amount to a new Bureau.

COM. STONE: Mr. Chairman, Mr. Frank Merriell, who is one of the advisers to the Colorado Commissioner, has indicated to me that he had an observation to make.

THE CHAIRMAN: Mr. Merriell.

MR. MERRIELL: For the benefit of those who give consideration to this question of administering this compact I would like to point out this: Your Engineering Advisory Committee today faces some problems for which the answers are going to be very difficult because there is a great lack of records in certain neighborhoods. It will not be too long a time between the formation of this commission and the time when it will have to exercise its powers for that commission to get the necessary records in those parts of the Upper Basin where there is today no record. And I feel very strongly that in selecting those places where records should be obtained and in the business of obtaining them, all the states have an interest, as does the United States, and that the administrative body should be set up to go to work at once upon the ratification of this compact. They will have a job of getting records for future use, the value of which most of us who are now working with the present records fully recognize.

THE CHAIRMAN: Mr. Merriell, would it be your thought that this administrative agency would be involved in the matter of finances or would the financial arrangements be made by existing state and federal agencies as they are today? It would seem to the Chairman that possibly it might be simplified if the administrative agency were composed of members from existing state and federal agencies and that the administrative agency would concern itself with the collection of records in the deficient spots and make its wants known to existing agencies.

MR. MERRIELL: Surely. It would cooperate I take it in every possible way with existing agencies and each of the states would make such provision for use of its present officials if possible, or a new official if necessary, to carry its share of the operation.

COM. BISHOP: Off the record. (Discussion off the record.)

MR. MERRIELL: There is one thing in my estimation which is essential: Before the middle river reservoirs are built which are contemplated for the regulation of the River, we ought to know a great deal more about what takes place in the middle river than we now know; and that administrative body can direct that work in cooperation with all the present agencies and the states of course will furnish their members and presumably implement those members and implement the work if they can't get it done any other way. I am very strongly impressed with the necessity for getting all this information.

COM. STONE: In line with the Chair's suggestion may I make this observation: First, I have no fixed ideas as to how this agency should be set up nor as to what powers should be given to it. I also know from a study of the question that there is imposed by law in various ways certain limitations on an administration commission. But I would like to make this observation, that the details ought to be referred to the Legal Advisory Committee since the makeup of such a commission and its powers has legal significance.

Also I think we should keep in mind in setting up such a Commission

that it should be so constituted that it does not represent any one state because here we have a group which will be performing a function not for one state but for five states, and you could not expect existing agencies within a state and officials employed by a state in all reason to assume that impartial position that the Commission ought to assume. I think that is a consideration which ought to be given to the setting up of an agency to administer the compact.

I can see in this a question which has to be settled after some rather careful study. It is a research job which the Legal Advisory Committee could well do. It seems to me as remarked by the Chairman that our present consideration should be confined to the question of whether or not the compact should have incorporated within it an article creating an administrative agency, and then refer the details to the Legal Advisory Committee for report back as suggested by Mr. Watson.

THE CHAIRMAN: The Chair would suggest just one thing on the assumption that this matter will be referred to the Legal Advisory Committee and that is that the legislators of the country, federal and state, are becoming concerned about the cost of administration of contracts and compacts; and I think everybody should bear in mind the necessity of being able to present to the respective legislatures an estimate of the cost of administration of whatever administrative agency may be set up.

Now, gentlemen, do you wish to take formal action on the question of setting up an administrative agency in the compact? If so, the Chair will entertain a motion to that effect.

COM. WATSON: Mr. Chairman, I move that the principle of creating an administrative agency be accepted by this Commission, that a clause be incorporated in the compact adopting the principle, and that we refer the matter to the Legal Advisory Committee to work out the details and report back to this Commission.

COM. BISHOP: I will second the motion.

THE CHAIRMAN: The motion has been made and seconded. Is there any discussion of the motion?

COM. STONE: Question.

THE CHAIRMAN: The question has been called for. (Thereupon a vote was taken and Com. Watson's motion carried unanimously.)

COM. CARSON: Now, Mr. Chairman, so that this Committee will have an idea of what the Commission desires, I take it from the discussion that has here been had, they would like a clause worked out that would create a commission with at least one representative from each state and then define the powers of the body and the limits of its authority.

COM. STONE: It seems to me that so far as Colorado is concerned--and I would assume that would be true of the other states, I know Mr. Bliss mentioned it to me--he indicated very wisely I think that that was a question of research and study, and Mr. Watson's motion didn't go to any suggestion.

COM. CARSON: No, I know it didn't.

COM. STONE: It adopted it as principle and I don't believe we are prepared to make suggestions. We have confidence in this Legal Advisory Committee and if you come back with something we don't like I imagine it would be

thoroughly analyzed and changed or varied to meet the feelings and desires of the participating states.

COM. CARSON: Yes.

COM. STONE: I don't believe we ought to attempt to become committed on this.

COM. CARSON: This legal committee then would just undertake to work out a clause without any guide the best it can and then bring it back and recommend it or ask for further instructions?

COM. STONE: That is right. And you have got a representative on that committee from each of the states, haven't you?

COM. CARSON: From each state, yes.

THE CHAIRMAN: The Chairman offers this suggestion: that the Legal Advisory Committee work out this matter in alternatives. You can perhaps present it with a representation by each state and by the Federal Government using existing officials. Or you can throw that out the window and work up another scheme using an entirely new setup. I can see about three or four alternatives that are possible. Would that be too much of a task for the legal men to undertake?

COM. CARSON: If you are not going to say how they are to work it out, we will just do the best we can and report back. We won't try to anticipate somebody else's idea. We are on our own and we will do the best we can. If it will be changed later, it will be changed.

THE CHAIRMAN: The suggestion of the Chair was looking forward towards progress. If you come up with one proposition only and that is discarded then you go back again and study another month or two on something else. Well now why not undertake the matter with the idea of bringing forth several alternatives?

COM. CARSON: I think if it is put up to us just with the bare outline to work out an administrative clause, with all the members of this Legal Advisory Committee and their own views and mind, we will have to try to reach a meeting of the minds in that committee and report the result of the Committee's work the best we can and then we will have to be able to explain our reasons and why we did it and submit it for the approval or disapproval of the Commission and any further instructions. I don't think it would be practical to try to work out an agreement among the members of the Legal Advisory Committee on alternative proposals in advance of any instructions from this Commission.

MR. ROLLINS: Mr. Chairman, may I say a word here?

THE CHAIRMAN: Yes, Mr. Rollins.

MR. ROLLINS: Inasmuch as you asked for comments from advisers a while ago, may I say that we in Wyoming are very much concerned about this administrative commission because of the fact that the area covered in the Green River Basin in population is very small in comparison with the rest of the State of Wyoming, and these matters will have to be approved by our legislature. We feel quite confident that our legislature is not going to stand for any elaborate setup that is going to run into a lot of money that the State of Wyoming would have to pay for and that is the reason I think Mr. Bishop made the statement he did that perhaps for a number of

years it wouldn't require any great effort--what I mean is that there should be no great expense incurred due to the fact that the development of the Upper Basin will not have proceeded far enough. For that reason perhaps this commission could consist of someone who is already in an agency within the state or someone whom the Governor may appoint. But particularly are we a little bit worried about a setup which would include high-salaried people working under the commission at that time.

I thought as long as Mr. Carson has asked for something, that is one thing they could keep in mind in their deliberations and in preparing this statement for recommendation to the Commission.

THE CHAIRMAN: Off the record. (Discussion off the record.)

MR. PATTERSON: I would like to make one observation, Mr. Chairman.

THE CHAIRMAN: Sure, Mr. Patterson.

MR. PATTERSON: For the benefit principally of the Legal Advisory Committee. This same matter of an administrative agency to take over and administer the provisions of whatever compact is drafted, is a matter that has been discussed quite in detail and is right now under consideration to the extent that a draft of an article covering an administrative agency is before the Colorado-Kansas-Arkansas Compact Commission and in a period of a year and a half that matter keeps coming up in different forms ranging all the way from the minimum form in which the State of Colorado, the upper state in that case, might assume certain obligations in that compact to the lower state of Kansas and eliminate more or less entirely a separate administrative agency. It has gone from that minimum to a maximum of an independent agency with its own high-salaried employees, as some have discussed, patterned after the provisions of this Delaware River Compact in which that independent administrative agency would duplicate and to some extent supersede the functions of both state and Federal agencies in the same field, would be authorized to make independent investigations connected with determination of matters like stream depletion and consumptive use, reservoir losses and reservoir siltation rates, etc. Some place along the line there is going to have to be a happy medium and I am only directing my comments to this one point:

There is a relation between the powers assigned to this Commission, discretionary authority, and the language of the compact, the apportioning provisions of the compact you are proposing to write. You can say in general terms, "We will divide it equitably," and leave it up to the Commission to say what is equitable. Or you can say on the other hand, "This commission can do it thus and so, letter perfect, as written in this compact." That is another illustration.

So I hope this question, which has apparently been dodged in a discussion of the powers of this commission, isn't forgotten by the Legal Advisory Committee because it will have a bearing on what you assign to the commission, the language of your compact having to do with apportionment of uses and obligations.

COM. STONE: I thought we had passed this question and disposed of it. What comments are there further?

MR. PATTERSON: These were comments for the benefit of the Legal Advisory Committee.

COM. CARSON: Thank you, Mr. Patterson, for making them.

COM. STONE: I am not objecting to the comments made. The Chair said he would call on each of us.

COM. WATSON: Mr. Clyde would like to make a comment.

MR. CLYDE: It would appear to me, Mr. Chairman, that the Legal Advisory Committee could save considerable time for the Compact Commission by going to the various administrative plans which must exist over the United States for administering rivers under similar problems and report back by way of perhaps a written report what plan is used on the Rio Grande and the Delaware and on other rivers, our criticism of the Rio Grande plan as it might apply here, and then finally come forward with a written clause of a form which we would recommend. We could give to the Compact Commission the background of the study of the compacts over the nation at large, the methods by which other compact commissions and administrative agencies are functioning, perhaps by actually contacting the administrative officers to find out some of their administrative snarls, and that could then be reported back in a written report of the findings of the headaches that the administrative agencies are meeting over the country generally and then our recommendation by way of a clause we think would iron out some of those headaches and apply here.

THE CHAIRMAN: In answer to your question, Judge Stone, the reason why the Chair is asking for comments is on account of the perplexity apparently in the mind of the chairman of the Legal Advisory Committee, and it was with the idea of soliciting helpful suggestions to the chairman of that committee. The Chair now calls on Mr. Bliss.

MR. BLISS: Mr. Chairman, I can only point out this, which is probably obvious to the Legal Advisory Committee, that there are two functions presumably which will be administrative in nature. One would be the fact-finding group which would determine streamflows and reservoir losses and all the engineering data which are necessary to be kept in the administration of the compact. The other function is the actual executive or administrative function within the state. In other compacts of course--at least with which I have been concerned--those functions have been turned over to the state administrative official. Whether that could work in this case I don't know because there is the problem of administration of middle basin reservoirs, which is an overall problem with which each state is concerned. Whether that could be handled by the state administrative agency I don't know. That probably would have to be decided by the legal group.

THE CHAIRMAN: Thank you, Mr. Bliss. We haven't heard yet from another member of the Legal Advisory Committee, Attorney General Gray of Wyoming.

MR. GRAY: I don't believe, Mr. Chairman, that I have any contribution at this time.

THE CHAIRMAN: Well, I thought perhaps you might have some question you wanted to ask this Commission which might be of assistance to you in working out this task that has been assigned to the Committee.

MR. GRAY: Well, it would seem to me that if the Legal Advisory Committee can gather these provisions relating to administration that are contained in existing compacts, it would greatly simplify the problem of the Legal Advisory Committee. Adjustments perhaps might readily be made to arrive at the language we might wish to recommend to the Commission. And until I have an opportunity to review some of those compacts, I believe I will have no thoughts to present at this time.

MR. BREITENSTEIN: Mr. Chairman, may I say something?

THE CHAIRMAN: Yes.

MR. BREITENSTEIN: Sometime ago the Colorado Water Conservation Board got out a compilation of interstate compacts. Now I know we did a devil of a lot of work in getting that out and if the members of the Legal Advisory Committee would give some attention to that book I believe they would get some ideas out of it.

THE CHAIRMAN: I think that is an excellent suggestion, Mr. Breitenstein. That is one of the best compilations I have had the opportunity to look at. It has a world of information in there and it is evident that a lot of research work was done. The Chairman most seriously recommends that to the earnest consideration of all members of the Legal Advisory Committee.

COM. STONE: I want to say, Mr. Commissioner, if there is anyone, either a member of the Legal Advisory Committee or a member of the Commission, who does not have a copy of it we shall be glad to make copies available. We have made an effort to send copies to all of these states. I believe I sent some to Mr. Bishop.

COM. BISHOP: I have one copy.

COM. STONE: And Mr. Watson and Mr. Bliss and Mr. Carson. But if you don't have enough copies for your attorney general's office and other officials, if you will indicate to us how many additional copies you want we will attempt to supply them.

THE CHAIRMAN: Is the Commission now ready to pass from this item which was presented on the list by Colorado?

COM. BISHOP: If it is in order I would like to ask the Wyoming group if they have anything to offer.

THE CHAIRMAN: Certainly it is in order, Mr. Bishop.

(Com. Bishop polls Wyoming group.)

COM. BISHOP: Okay.

THE CHAIRMAN: Is there any adviser from any state who wishes to make a further comment on this matter of the administrative agency? If not, is the Commission now ready to pass from this item to the next item on the list submitted by Colorado? I take it that the Commission is now ready and will Colorado please proceed.

COM. STONE: Mr. Chairman, in submitting these items we are not taking up at this time items which require considerable study. There is one item presented by Colorado which it seems to us could be discussed at this time because it involves overall policy and is a question which may not require too much study.

Colorado proposes now the item with respect to the basis of the obligation to make deliveries of water at Lee Ferry. There are several subdivisions of that item and I will ask Mr. Breitenstein to refer to his suggestions and itemize them and submit the first statement on that question.

THE CHAIRMAN: Judge Stone, will you inform us your wishes in the matter, as to whether you wish the Commission to take action on the matter as a whole or by subdivisions?

COM. STONE: It occurs to me, Mr. Chairman, that we are only submitting these for discussion and we are not going to ask any state to take action on something they are not ready to act upon.

THE CHAIRMAN: That is perfectly understood, Com. Stone, but this matter before you get through with it may involve some work by your Legal Advisory Committee again.

COM. STONE: That is entirely correct, and if the discussion discloses that fact, then I assume action in that direction will be taken. I don't know what the reaction of the Commission will be to it but I thought we might get it out on the table here and look at it. I don't know what it will require, whether it would be appropriate action to have further study or whether the states are ready to act upon it now. We are merely submitting it for consideration, Mr. Chairman.

THE CHAIRMAN: Very well. Mr. Breitenstein.

MR. BREITENSTEIN: Well, the question relates to the obligation to maintain the required flows at Lee Ferry. I have often heard Mr. Carson, whose state is interested as a Lower Basin State, say that that is a joint and several obligation. I am inclined to think that he is right from my own standpoint.

If it is a joint and several obligation, is it a joint obligation of the states as states, or may that obligation be divided up among tributary basins within states, or may the obligation be divided up between projects or groups of projects within a state?

The basic problem has been presented by the Commissioner from Wyoming in his suggested draft when he suggested that deficiencies at Lee Ferry be satisfied by shutting off all transmountain diversions. I can not talk as to the laws of any other states but Colorado, but in Colorado we have a priority system as you all know, and we have some transmountain diversions with very old rights, a number of which antedate the original Colorado River Compact, some of which do not. But as Judge Stone said the other day, our existing transmountain diversions export on an annual average something around 130,000 acre feet of water. In addition we have one major project, the Colorado-Big Thompson, under construction.

So far as Colorado is concerned it seems to me--and I am speaking personally now--that the only method which can be adopted is that of state obligations. After all, the states were the ones who signed the Colorado River Compact. They were the ones who agreed to deliver 75,000,000 acre feet every ten years. And that is a responsibility of each of the states of the Upper Division.

Now if a deficiency is caused by the diversions or storages of any project within a state it is up to the state to get that project straightened out. It is not up to any agency that might be created by this Commission or the Federal Government or anybody else it would seem to come up and tell John Smith he has to close down his headgate. That is a function it seems to me of the state.

I will concede that there may be some arguments pro or con on that and particularly there may be some arguments when you consider the fact that the Lord may not bless the various tributary basins with the same amount of rainfall in each year. But regardless of those considerations it would seem to me that the obligation is definitely a state obligation and it is so

imposed upon the states by the Colorado River Compact and that the states cannot escape the obligation.

If it is a state obligation then the burden is on each state to satisfy the obligation of that state. And if it is such an obligation of the state, then the state has not only the right but also the duty of regulating the water uses within its own borders and no other state can come into one of the neighboring states and say to it, "You have to close down this diversion," or, "You have to stop this particular storage." That is a matter of concern for the states.

Of course, if that principle is correct then the theory advanced by Mr. Bishop as to shutting down transmountain diversions could not be accepted.

COM. BISHOP: Mr. Breitenstein didn't state it just as I did. Paragraph (b) of my statement, and I quote from what I stated yesterday, reads: "That the compact provide for closing of a portion of the transmountain diversions necessary to make good any obligation at Lee Ferry." And upon question from Judge Stone I explained I did not mean or intend to interfere with any existing rights in the Basin.

MR. BREITENSTEIN: The point I make would go to future rights as well as existing rights, Mr. Chairman. We think here in Colorado we have a right to use and dispose of as we see fit the water that is Colorado water. The limiting factor is that we have to comply with our state obligation and as long as we comply with that, it is not up to anybody to come into our state and say how we use our water.

COM. BISHOP: That same rule applies to Wyoming.

THE CHAIRMAN: In that connection, Mr. Breitenstein, it occurs to the Chairman that your argument, in which I see no flaw, is leading towards a simplification of the work of the Legal Advisory Committee on the work which was assigned to you previously because you are liable to have an agency set up which will run right into conflict with state agencies in the regulation of these old rights if you are not careful.

MR. BREITENSTEIN: May I make one further observation, Mr. Chairman?

THE CHAIRMAN: Certainly.

MR. BREITENSTEIN: There is a complicating factor which comes in when you consider projects constructed in one state for the use of another state or your main stream reservoirs which may be for the benefit of all states. Those are complicating factors which have to be considered of course.

THE CHAIRMAN: Of course, there are situations today, particularly on the North Platte, where reservoirs are built in Wyoming largely for the benefit in another state.

MR. BREITENSTEIN: That is right.

THE CHAIRMAN: But by cooperation between the Bureau of Reclamation and the state engineers the administration seems to work pretty well.

MR. BREITENSTEIN: That is a result, shall I say, of at least ten years' litigation. We ought to be able to avoid that here.

THE CHAIRMAN: I certainly agree with you we ought to avoid litigation and its tremendous cost. I am more or less reliably advised that it cost

about a million dollars. But the River was administered fairly equitably prior to the decision of the Supreme Court.

MR. BREITENSTEIN: I think it was too, Mr. Commissioner, but I have heard testimony from numerous witnesses who said that it wasn't. I disagreed with the witnesses but they raised their right hands and swore that it wasn't.

COM. BISHOP: I might remark in connection with that that under the decree of the Supreme Court in the Nebraska-Wyoming-Colorado litigation, it is being administered by the administrative officials of the states in a very harmonious and satisfactory manner.

THE CHAIRMAN: Off the record. (Discussion off the record.)

MR. PATTERSON: May I ask a lawyer a question for my own information about it?

THE CHAIRMAN: Yes, Mr. Patterson.

MR. PATTERSON: Does a joint and several obligation mean that if one state fails, the other has to make good?

MR. BREITENSTEIN: That is right, Charlie. It means that if you and I sign a note to Harry Bashore, either one of us can be sued for the amount of the note.

COM. STONE: Doesn't Mr. Patterson's question further indicate the necessity of apportioning the obligation because you have a separate note then to make a state comply with its agreed obligation under the Compact which we are considering.

COM. WATSON: Is this a partnership then, Mr. Chairman? Are we in a partnership of states in the Upper Basin?

THE CHAIRMAN: Well, the Chairman is not in the position of the Supreme Court of the United States and if there is any lawyer present who wishes to answer that question we will be very glad to hear from him.

MR. BREITENSTEIN: First, Mr. Will?

MR. WILL: Neither am I.

MR. RITER: Mr. Chairman, Jean Breitenstein made a very pertinent remark when he says that this whole question is complicated by virtue of the operations of main stem replacement reservoirs. I have given quite a bit of thought myself to this particular problem of meeting the obligation at Lee Ferry and my own thinking has been that it is a joint problem in which all the states are interested. I haven't advanced my thinking to the point where I think it could be divided up among the states. Maybe I am way behind. Some of the other people have been thinking on this same problem.

As I envision the matter from an engineering viewpoint we have got this situation facing us: In the low ten-year period from 1931 to 1940, inclusive, the average recorded flow at Lee Ferry was about 10,200,000 acre feet. Now for the period of study the Engineering Advisory Committee has adopted from 1914 to 1945, inclusive, the recorded flow was in round numbers an average of 13,900,000 acre feet. If we write out of the picture any main stem reservoirs, then our future possibilities of development are limited to the difference between the average flow in the ten-year low period and our

obligation to deliver water at Lee Ferry.

That obligation we know will have two components. Mathematically we can't define them. We know one component will be an average of 7,500,000 acre feet to the Lower Basin. There will be another component which we can't define in mathematical terms which is our share of the obligation under the Mexican Treaty. That will leave a small quantity of water for future development, limiting ourselves to that particular condition.

However, if we develop in the Upper Basin beyond that quantity of water thus determined, thus defined by the low period, it will be necessary on the basis of records which we have in front of us to find ways and means of augmenting the flows available in the low period and that means holdover storage.

As I see the problem, as I have studied it and I have thought about it, it is difficult for me to get my mind in a position where we can get away from what Mr. Breitenstein calls the joint and several obligation. I realize there are a lot of ramifications but I feel in my own mind that that one qualification, that one complicating factor Mr. Breitenstein pointed out, is a very important one and I am at a loss, I am frank to admit, from the thinking I have done on it in the past--I haven't concocted or haven't thought up any schemes how that obligation could be allocated among the states. I still think it is a joint liability. That is my own thinking on the matter.

THE CHAIRMAN: Well, it would seem to the Chairman if this compact is ratified you have to assume that each state will comply with the law and the compact will be the law. If a certain percent of the obligation is assigned to a state it must meet it.

MR. RITER: The only trouble is that maybe we haven't thought quite far enough. Let's explore another possibility. If Mr. Breitenstein will recognize the possibility that holdover storage is needed--I am just asking questions now to find out--maybe you have been doing some thinking in advance of what I have been doing. Did you anticipate the possibility that each state would have an interest in these holdover reservoirs, a percentage ownership, to help meet the state's percentage obligation?

MR. BREITENSTEIN: Yes, that can be one thing. Of course, that brings in another question then, how are you going to control the releases of the water? If Colorado has 100,000 acre feet in a reservoir, do we get to say when we release it? That brings in another question it seems to me and here I am getting off my track because I am not an engineer.

You have your main stream reservoirs and the water coming into those reservoirs comes from certain defined sources, some of it, say, from Wyoming, some from Utah, and some from Colorado. Well now, if some scheme could be devised of measuring the contributions of the various states into those reservoirs it would seem to me like you ought to be able to figure out which state wasn't doing its share. Of course, no state should be called upon to shut down any of its uses to supply a deficiency unless the main stem reservoirs have failed in the test. So the first question is whether or not each state gets all the water it should down to the main stem reservoir. Then if they don't supply the deficiency, what do you do about getting enough water down there?

It is more than a double-barrelled question. It is a very serious question. It is one of the most serious ones the Commission will meet and I think it is something which we have got to start considering right away. I am sure each state wants to be fair in the matter. It wants to give its share of the water to satisfy the Colorado River Compact. Each one of our states signed

on the dotted line there. But as to how that obligation shall be met is a serious question which it seems to me the Compact Commission has to solve if the compact is going to be ratified by the state legislatures and approved by Congress. To me it is more than just saying that each state has so much water in a reservoir and that is released to satisfy the share of the state. The state has got to get the water down to the main stream reservoirs and if they fail, it has an obligation to reduce its uses so the deficiencies are met.

MR. BLISS: Mr. Chairman, I would like to ask if the problem that has been posed here doesn't involve the following principle: that in addition to our present consumption all states can develop to the amount which may be safely consumed in our ten-year low cycle period and an allotment made on that basis. Then the additional development can be made up to the 7,500,000 average use each year and the operation of the projects developed under that portion of the Upper Basin Compact will be obligated to deliver at Lee Ferry from the main stem reservoirs.

MR. PATTERSON: Your idea, John, is some method of finding out what proportions of the water of these reservoirs are contributed by the states and then giving them credit in that same proportion perhaps to releases and deliveries at Lee Ferry?

MR. BLISS: On an equitable basis, yes.

MR. PATTERSON: Would it also apply to a proportionate charge against each state for the evaporation losses from those reservoirs?

MR. BLISS: I presume that the contributions and the losses and the obligations to deliver would all be on some equitable basis, yes.

MR. PATTERSON: It would have to be some recognized or defined percentage or proportionate basis so you would understand what the obligation was.

MR. ROLLINS: Mr. Chairman, may I ask Mr. Riter a question?

THE CHAIRMAN: Yes.

MR. ROLLINS: I am wondering, Mr. Riter, if from the studies your agency has made you feel that sufficient water can be stored to take care of our obligation there so there would be no deficiency?

MR. RITER: Well, Mr. Rollins, as engineers we have to judge the future by the past. If we hold down our uses of water to the residual over and above the downstream obligations, yes. Now the question always comes up, what is the proper period of study? I recall in 1929 when I first became engaged in the study of the Colorado River, we went back and fabricated records through the drought centering around 1902 and 1904. We thought we had a pretty low period selected. So we went ahead and planned Hoover Dam on that basis. About the time we got it built and started operating, Nature demonstrated to us that there was a lower ten-year period, 1931 to 1940. I don't know what the future is going to hold; whether 1931 to 1940 is a proper basis I don't know.

MR. ROLLINS: What I am trying to get at is this: We will be developing during the next 15 or 20 or 25 years. Even if we use the measurements that were made during the ten-year low period there still will be considerable water that could be stored that could be accumulating provided these reservoirs could be put in within a reasonably short time, and if so

we would have a surplus there that would carry us over any dry period after we had developed to our maximum in the Upper Basin States.

MR. RITER: Mr. Rollins, my concept of holdover reservoirs is that they must be planned so they can be filled with the ultimate development you plan to make. In other words, I don't envision those holdover reservoirs as just emptying them once. I envision after they are emptied they have got to be refilled again to prepare for another drought cycle. So it wasn't my thought that they would be filled now during periods of incomplete development and then held full and subsequently emptied during a period of complete development. I have in mind a cyclic operation following complete development.

For instance, the Engineering Advisory Committee selected a period from 1914 to 1945, inclusive. If we should be so bold as to base our development on that period, that would mean that in calculating the amount of additional development that can be made in the Upper Basin--it isn't as simple as this, there are a lot of complications, of course--we would take the average flow in this long period 1914 to 1945, and subtract out the obligation. As I said before, the obligation is at least 7,500,000 acre feet for the Lower Basin plus an unevaluated amount, the Upper Basin's share of the Mexican Treaty obligation, which for the purpose of argument might be taken as 800,000 acre feet a year. The total obligation would then be 8,300,000 acre feet. Subtract that off from 13,800,000 and that will tell you how much average additional depletion can be made. I am just trying to simplify the problem to envision what the possibilities are.

Of course I realize there are complications. For instance, depletions are not constant year in and year out and there are a lot of other problems. Some of the engineers would want to be more conservative maybe and to make sure they were on the safe side, would probably want to make a smaller amount of development.

As I envision it, we have got to anticipate that these reservoirs will operate after we have made all the development we plan to make in the Upper Basin. They must fill during periods of good runoff and we must release storage from them during periods of low runoff. Of course, there are many other complications, for instance, of interbasin relations as to when we can store and when we cannot store in those reservoirs. There are many complications involved. I am merely trying to point out some of the problems.

COM. BISHOP: Mr. Riter, could you give us the 1914 to 1945 inclusive flow of the Colorado River at the Mexican border?

MR. RITER: I haven't calculated that, no, sir. I think we could compile the data. You want the historic flow?

COM. BISHOP: I would like to have it very much.

MR. RITER: I will compile the data. I don't happen to have the figures with me today but I believe the records are adequate to show what that was. Of course that will have to be calculated from records at Yuma station.

MR. PATTERSON: Mr. Chairman, may I ask the attorney an engineering question?

THE CHAIRMAN: Yes, sir.

MR. PATTERSON: As I understood Mr. Breitenstein's statement, he discussed the question of whether this obligation, by whatever legal language it

is called, is imposed upon the states or upon tributary basins or projects or groups of projects, and then I believe he gave the statement in his opinion it was an obligation imposed upon the states and had to be treated as such. I am wondering for the aid of the Engineering Advisory Committee if that question Mr. Riter keeps bringing up about the potential obligation of the Upper Basin to deliver more than 75,000,000 acre feet in ten years to the Lower Basin is one that we could have the benefit of further advice on.

You can see it makes a good deal of difference from the standpoint of the reservoir capacity required, and as an engineer it seems to me we ought to have some guidance rather than our own figuring on that question when we get to it. The first thing of course is to find out what water has been there and where it has come from before we can speculate too much on this but I am wondering about it now that you have mentioned this question of the delivery obligation. You considered it so far only from the standpoint of dividing it up among the Upper Basin States. Are there other questions under this compact involving additional obligations at Lee Ferry that we should take into account?

COM. BISHOP: Mr. Riter, I would like to ask you if you have any studies on the amount of water that is going to go to Mexico across the Mexican Border upon full development. Say we take all we can take; then the return flow below Imperial Dam would be about how much? Have you got the dope on that?

MR. RITER: During the Mexican Treaty hearings they presented testimony to the effect it would be in the neighborhood of 900,000 acre feet.

COM. BISHOP: That is about as I remember it.

MR. RITER: That testimony has been challenged by some people in Arizona and very strenuously by California to the effect that if such a large quantity of return flow should develop it would be intercepted within the United States and not be permitted to flow into Mexico, and there is a lot of force to their argument. I can't deny it.

COM. BISHOP: And then California admitted that 700,000 would be around the minimum that would go across there in the hearings in Washington.

MR. RITER: Well now, when I speak of return flow I didn't identify whose water that was. The Mexican obligation is 1,500,000 and that is on the River. In my mind it is a detail whether that gets to the Mexican border by return flow or whether it gets there by direct by-pass down the River. It is still 1,500,000 acre feet demand on the River.

COM. BISHOP: That is right. How could that make the obligation of the Upper Basin to deliver more to Mexico than the difference between what is going to get there anyhow and 1,500,000, which in my opinion would be around 800,000 of an obligation.

MR. RITER: Well, the people in the Lower Basin have testified that in their opinion that water will never get there anyhow. My own concept has been this, Mr. Bishop, of that return flow problem: The large share of this return flow would come from Arizona projects particularly. Of course bear in mind there are small contributions from California projects also. The large share of that return flow would come as return flow from Arizona projects.

Now with the Mexican Treaty in effect the question immediately comes up, what is the proper charge to Arizona? For example, if Arizona should divert 2,000,000 acre feet from the Colorado River and return through return flow 900,000 acre feet to Mexico, under the Colorado River Compact is the charge against Arizona the diversion minus the return flow or 1,100,000 acre feet? Or is the charge against Arizona the full amount of the diversion? In my opinion the charge against Arizona is the difference between the return flow and the diversion or 1,100,000 under the suppositions I have given.

That would mean then that Arizona has taken advantage of the fact that Mexico has a right to use water which would involve her return flow. That means then she is merely borrowing for the purpose of facilitating her own diversion some of Mexico's water and has by-passed it through the canals instead of letting it stay in the River. In other words, if it should finally be construed that my supposition is wrong and that Arizona is charged for the full amount of her diversion, I am confident that Arizona would arrange facilities so that there would be no return flow to Mexico, and that is my theory on the thing. I think I am right; otherwise I wouldn't be propounding it.

So in my opinion, getting back to your question then, in figuring the Upper Basin share of the obligation, assuming for the time being that there is no surplus water because in drought cycles there will be no surplus water--and I might say at this point that certain engineers have calculated that on a long-time period the surplus would be so insignificant that it would be impractical to use, but that is beside the point--but in drought cycles where we will all agree there is no surplus, then it seems to me the Upper Basin share is a half of 1,500,000 acre feet. That is my opinion. You suggest it might only be a half of the difference between a million and a half and this return flow of some 700,000 or some 900,000 acre feet, but I can't see it that way.

MR. BLISS: May I suggest, Mr. Riter, that the quality of the water might enter into your computations?

MR. RITER: That is true. There are many complications of this problem and by trying to simplify my explanation I hope I don't give the impression it is that simple to work out in practice.

(Discussion off the record.)

THE CHAIRMAN: Let it be understood that if the Colorado River Basin States Committee concludes its work before five o'clock tomorrow the Chairman will call the Commission together for consideration of the problems before it. I hope you all understand that. If less time is required tomorrow we will utilize that time in the work of the Commission.

Before we adjourn I wish to congratulate Colorado in having worked out a lot of factors or questions to come before this Commission. I think the State has done a good job and whether they are questions which the Commission may decide should be embodied in this compact or not remains to be determined but nevertheless they are questions properly to be considered and I hope the other states will do a good job in their presentation during the later sessions of this Commission. I don't know whether we will get around to them Thursday or not but the states have said they will be prepared.

Motion for adjournment is now in order.

(5:00 p.m., Tuesday, December 2, 1947, recess until completion of Colorado River Basin States Committee meeting on December 3, 1947.)

Denver, Colorado
December 3, 1947
1:30 o'clock p.m.

(All Commissioners present.)

THE CHAIRMAN: The Commission will come to order. Let it be understood that the Commission will recess or adjourn today at 3:30 in order that the minutes of the Cheyenne meeting may be corrected and placed in the hands of the Secretary and opportunity will be afforded for a meeting this afternoon of the committee appointed by the Colorado River Basin States Committee this morning to consider certain matters, and to permit an opportunity for a meeting of the Legal Advisory Committee during the remainder of the day.

The State of Colorado has made available to the members of this Commission and its advisers a compilation consisting of four volumes relating to the principles involved in a negotiation of interstate compacts. In this connection the Chairman is of the opinion the work which Colorado has done in this respect during the last four or five years will greatly facilitate the work of the Legal Advisory Committee and expedite such work because the information is all in one place. All of the treaties or compacts are there for anyone to read and I presume the citations should be a lawyer's paradise. Your Chairman has looked at them. Of course they mean nothing to an engineer but to a lawyer they should be of great value. I want to congratulate the State of Colorado for this excellent job.

MR. WALLACE: Off the record. (Discussion off the record.)

COM. CARSON: It is a very valuable work. I have studied it, too. It is a service to everybody that they have performed.

THE CHAIRMAN: Now the first order of business today is to complete the consideration of the matter before the Commission at our adjournment yesterday afternoon, which is the matter of the joint and several obligations of the states to deliver water at Lee Ferry. Off the record. (Discussion off the record.)

What further comment do we have on that item? (No response.)

Well, gentlemen, there was considerable discussion of this question. What are the wishes of the Commission as to any action it may wish to take on the matter at this time in the way of reference to the Engineering Advisory Committee or to the Legal Advisory Committee?

COM. STONE: Mr. Chairman, the statement of Colorado in presenting that matter, which is a little bit beyond your explanation of it, was listed as: Shall the responsibility of maintaining the required Lee Ferry flows fall upon the states, certain tributary basins or individual projects or groups of projects?

MR. WALLACE: I wonder if Judge Stone wouldn't tell us what the thoughts of Colorado are.

COM. STONE: We shall be glad to do that and since Mr. Breitenstein made the explanation yesterday I will ask him to follow Mr. Wallace's suggestion when he asks, what are the thoughts of Colorado on that question.

MR. BREITENSTEIN: I tried to indicate that in the statement which I made yesterday. Perhaps I wasn't too clear. But as I understand it, the

water users here in the State who are interested in a Colorado River Compact and desire to see an Upper Basin Compact feel very strongly that that is an obligation of the individual states and that the states are the entities which are responsible for maintaining those flows. Of course that can be enlarged on to a considerable extent but it boils down to that, Mr. Wallace. The obligation is a state obligation.

It seems to me that that position is really the only one which can be taken. The states are the ones who made the Colorado River Compact. The obligation is created by the Colorado River Compact. We in the Upper Basin have to recognize it because of the Colorado River Compact. Of course I am always accused of being legalistic but if there ever was a case where you have to be legalistic, it is here. The states signed the Colorado River Compact and the states are bound by it and it is not any particular project and it is not any particular drainage basin. It is an obligation of the states so the states I say are the ones who are required to do this.

Now what each state wants to do within its borders in order to satisfy the total state obligation, that is the business of the state. Is that clear enough, Judge?

COM. STONE: Yes, and that latter statement by Mr. Breitenstein is the way it always appealed to me. You can only enforce a contract--and after all a compact is a contract among states with the consent of Congress--you can only enforce a contract upon the parties to that contract. You can only enforce a compact upon the states signatory to it.

And going further, it would be contrary it seems to me to the concept of the obligations and sovereignty of a state for any compact to wipe out state lines with respect to the meaning of the obligations under a compact. The state stands in the place of and represents its own water users, and the state must in the end enforce such laws, agreements and policies within its own borders as will insure the meeting of a state obligation. No state could enforce upon another state any arbitrary rule, either by compact or otherwise, which would be contrary to and interfere with the laws of that state, and that would be the effect if an effort was made to place this obligation upon any group aside from the state.

And after all it seems to me the die was cast when these states negotiating here today agreed to the Colorado River Compact and there was placed upon us a joint and several obligation. That several obligation was on a statewide basis. And it seems to me--and I am speaking only for Colorado--that we cannot avoid the legal conclusion--and here, Mr. Chairman, we must be somewhat as Jean says, legalistic--that the obligation is one of the states and not of the tributaries or individual projects.

MR. MERRIELL: I would like to make an observation, Mr. Chairman, and that is, as to Colorado at least the State is the only agency which has the power and the system to enforce any moves that might be necessary to enable Colorado to make its proportionate delivery. That would be a functional part of the duties of the State Engineer to administer the public water of Colorado. He is the only person that has that power in Colorado so that from the point of view of Colorado, that is the way it would have to be done.

MR. GILES: May I ask a question?

THE CHAIRMAN: Yes.

MR. GILES: I don't know whether this is proper at this stage of your discussion, Judge Stone, but would the state's obligation be based on a

percentage directly proportionate to the apportionment of the water itself?

MR. BREITENSTEIN: I didn't quite get your statement.

COM. STONE: That is a question which has been resolved.

MR. GILES: It has? I wasn't here.

COM. STONE: I think irrespective of what is agreed to as the several obligations at Lee Ferry, the same principle would apply.

MR. BLISS: Judge Stone, I think your records would be clear to the extent that the states are responsible not only at Lee Ferry but on tributaries to other states possibly.

COM. STONE: I think that follows. Mr. Breitenstein can supplement what I have to say or correct it if he thinks I am wrong. I think that follows. Whatever arrangement is made in the compact with respect to the apportionment of water or the determination of meeting the respective obligations at Lee Ferry--whatever that arrangement may be, the final obligation falls upon the state. Does that answer your question? Is that the way you view it, Jean?

MR. BREITENSTEIN: Yes. Whatever obligation there is on any entity to maintain any certain flows at state lines, that entity is unquestionably the state, just as in the Rio Grande Compact, Colorado is obligated to maintain certain deliveries at the state line. The same thing is true in the La Plata Compact. I mention those because they are between Colorado and New Mexico. So here if you have a tributary rising in one state and going into another state and there is an obligation in the compact for the upper state to maintain any particular stream flows, why that is a state obligation and not the obligation of any water user or group of water users.

COM. WATSON: Mr. Breitenstein, how would that apply to storage reservoirs along the main stem of the River where there is a community of ownership?

MR. BREITENSTEIN: Well, to me, Mr. Watson, that raises another question which I suggested the other day and which I apprehend we ought to discuss next. But to me that is a different matter.

COM. STONE: That is a matter which does not define state obligation. Isn't that the answer?

MR. WALLACE: Judge Stone says what it isn't. I take it what you mean is after an allocation is made to a state, the state shall minister in its own household and any priorities within the state are under state laws. Right?

MR. BREITENSTEIN: Yes, and may I add one point to it? The state has no extraterritorial jurisdiction unless there is some provision in the compact to that effect.

MR. WALLACE: Correct.

COM. WATSON: What would Colorado do to enforce its wishes in case of water being stored in a main stem reservoir in Utah?

MR. BREITENSTEIN: That brings up the question Mr. Riter brought

up yesterday. Is that water stored to the credit of Colorado? If it is stored to the credit of Colorado, Colorado should probably have some control over the release of it. If it is stored to the joint credit of everybody, that is different.

COM. STONE: And that is covered by another question raised by these factors submitted by Colorado.

MR. BREITENSTEIN: My thought was we had to take them up one by one. I didn't intend to foreclose any discussion of the other thing.

COM. BISHOP: Mr. Chairman, Mr. Rollins had an observation.

MR. ROLLINS: I was just wondering--Mr. Patterson and I have been talking a little here concerning the obligations of various states at Lee Ferry. Supposing it is determined here that the states individually must assume their obligations there and it is no concern of other states as to the obligation of an individual state; in case one state should default either voluntarily or for reasons beyond its control, would the responsibility be upon other states to make up that deficiency or would each state only be bound by the amount they were to furnish?

MR. BREITENSTEIN: Mr. Rollins, we have discussed that several times. No one yet has denied that the obligation under the Colorado River Compact is a joint and several obligation. So if there is a default they can go after all the states or one of the states to make up that default, and if we divide the obligations here on a percentage basis, shall I say, between the states, that state can go after its neighboring states and bring them into line. Under the Colorado River Compact the State of Wyoming can be sued all alone if the flows aren't maintained.

COM. WATSON: You speak of "they" going after them; who is "they"?

MR. BREITENSTEIN: The States of the Lower Division.

COM. STONE: After all, Mr. Rollins, to put it in another way: Under the Colorado River Compact it is a joint and several obligation which places upon the States of the Upper Division the obligation in their own self-interest of apportioning in an Upper Colorado River Basin compact this obligation; and if there is a violation of the Upper Colorado River Basin Compact, then there is recourse against a defaulting state under the Upper Colorado River Basin Compact. You must distinguish between the obligation under the Colorado River Compact, which is joint and several, and the obligation of each state under the Upper Colorado River Basin Compact.

MR. BREITENSTEIN: It is just like this, Mr. Rollins: Suppose five of us signed a note to Harry Bashore for a thousand dollars and then signed an agreement among ourselves we are each liable for a fifth of it. Now Harry Bashore can sue you for the full thousand dollars but you can come back after me for \$200.

COM. BISHOP: Suppose you are broke and can't pay it? Does he have to pay it all or not?

COM. WATSON: Assume, Mr. Breitenstein, that there was an unprecedented drought in the State of Colorado and that the Colorado River flow and the Yampa flow was reduced to a minimum, and assume that Nature provided that there were good snows up in Wyoming and the Uintas and the Green flowed normal or above normal; that would mean then that Wyoming and Utah could deliver their

share of the obligation at Lee Ferry, Colorado could not, if we assume all reservoirs empty. What would be the recourse against Colorado?

MR. BREITENSTEIN: Just like Mr. Bishop said just now, if I didn't have the money Mr. Rollins couldn't collect from me.

COM. WATSON: But Utah would have to pay because we were joint partners in signing the note?

MR. BREITENSTEIN: That is right.

COM. BISHOP: That is why I contend we have to have a pool of these reservoirs and when the water gets in there once it is joint water, it belongs to all of us, and we can make any agreements we want. But what if a situation comes up with a thirty-year drought on the San Juan like the tree rings show there has been and they can't pay down there? The other fellows have got to pay and it is something we can't foresee, just what it is going to be, and that is the reason I think we have to have a pool of reservoirs as well as a power pool to take care of the situation.

COM. WATSON: And then at some later date we settle among ourselves the obligation.

COM. BISHOP: I think this administrative agency should have authority to handle it and if any one state doesn't like the way they handle it, they should have recourse to the court.

MR. GILES: Let's pursue Mr. Watson's question one step further, I don't know whether you are going to come to that sort of an arrangement or not in the compact that if in a drought year one state fails to produce its share, will that state ever have to make that up in future years--is that your idea?

COM. WATSON: I assume they would settle it among the States of the Upper Basin at a later date.

COM. STONE: Can we analyze that a little bit further? Mr. Watson has assumed a condition, an extreme condition, which from a practical point of view would never happen to that extent. You were considering Colorado, for instance, and you took the Green and the Yampa. Colorado has many tributaries, the Gunnison, the main stream, the San Juan, and many other streams. Now I imagine from a purely practical situation you couldn't have a drought that would just surround Colorado or Wyoming or any other state. It would never in my judgment come to that extreme situation, but suppose that--

COM. WATSON: It is surrounding an area of Arizona right now, Judge.

COM. STONE: I am thinking of the physical situation. That could be in the extreme, sure, but the area we are talking about, I don't see how a drought could stop at the Utah Line or the Wyoming Line. It is very apt to be a general situation. But aside from that, I would assume that the defense of drought would not be a complete defense. Each state would have to go as far as it can go to meet its obligations under a compact and after all we are talking about theoretical situations that we can't do anything about. We can't control Mother Nature. Neither can we go back and revamp the Colorado River Compact. The Colorado River Compact does make it a joint and several obligation. We can't avoid that. That is a factual matter that is before us and this other situation is to meet it the best we

MR. BREITENSTEIN: May I suggest one other thing? The thing that is bothering some of the people here is considered in the Rio Grande Compact. That stream is perhaps more fluctuating than the Colorado and there the problem was solved by setting up a system of debits and credits, that is allowing permissible departures within limits. Now perhaps the same thing might be done here, although it occurred to me if you set up a system of debits and credits on the Colorado River you would get too complicated. But that is how it was taken care of in a much simpler situation on the Rio Grande.

MR. PATTERSON: Didn't it include a system of ten-year averages as well as a system of debits and credits on the agreed ten-year obligation? I think you would recognize it is a ten-year obligation but not a day to day or month to month obligation.

COM. STONE: Not even yearly.

COM. WATSON: May I ask Judge Howell to make a statement?

MR. HOWELL: So far it seems to me we have been discussing this matter from the point of liability. Perhaps that is not the right approach to this problem from the point of view of making this compact and it should be rather to approach it from the point of view of the method of fulfilling our duty rather than talking about the liability that will ensue on the failure on our part to perform our duty. Having that in mind, while I don't dispute anything that has been said here, the obligation upon the part of the Upper Basin is joint and several, which means of course that any one or more than one or all could be sued by whoever is damaged or injured as a result of the failure on the part of the Upper Basin to perform its duty. But there is no doubt, of course, that we can contract amongst ourselves as members of the Upper Basin as to what our liability as between ourselves shall be.

In order to get something constructive that we may do in order to effectuate that agreement it seems to me we ought to first of all establish it as a principle that this River should be so regulated that the obligation to make up any deficit will be minimized to the greatest extent. What I mean by that is that the long-term storage facilities and whatever else may be done from an engineering point of view, which I wouldn't want to enter into, should be undertaken as a part of the plan so that the possibility of any deficit will be minimized to the very greatest extent, understanding however, all that may be done there still may be the possibility of a deficit.

Then it would seem to me that we should agree on one of two things: Either that deficit shall then be made up by the states in proportion to the percentage of use of the water to which they are finally given the right under the compact; or an attempt should be made, which to my mind would perhaps be more logical although perhaps more difficult of ascertainment, that it should be related to the cause that produces the deficit. Now whether that could be done and still come within the limits of the suggestion made by Colorado that it is after all a state obligation, I do not know; but it does seem to me that this is the approach to this problem and these the possible solutions of it.

So it would seem to me that this matter should be referred perhaps jointly to the Engineering Advisory Committee and the Legal Advisory Committee to determine first of all, what is our obligation, because while it is fixed so far as the compact is concerned, as I understand it there may be some question as to the responsibility under the Mexican Treaty; and secondly, to establish it as a policy for the guidance of the Engineering Advisory Committee that in the development of this River it should be along the lines that will minimize any possibility of a deficit and then to make some recommendation back to this

Commission as to how the deficit should be handled if in spite of everything that is done there results a deficit.

THE CHAIRMAN: Thank you, Judge Howell.

COM. STONE: Mr. Chairman, I think Judge Howell has made some very wise observations on this question and speaking in support of Colorado's proposal here, I want it understood that we do not suggest any particular method but we concur in the principle that the obligations to make deliveries under the Colorado River Compact shall be minimized through appropriate provisions of the Compact and engineering operations. There is no question about that and we don't know yet, we haven't yet agreed upon those matters.

Our point is merely this: that whatever arrangement is made and whatever obligation is placed upon the states, and whatever method is devised to carry out this obligation under the Colorado River Compact, and when that is agreed upon, the obligation to carry it out is an obligation upon the respective states rather than an obligation upon a tributary or an obligation upon individual projects or groups of projects. And there again as suggested by Mr. Bliss from New Mexico, the tributary obligation is a matter of adjustment which will define or at least be considered in defining the obligation of a particular state. It goes to the rather simple matter of principle that when these obligations and these methods are finally agreed upon by this Commission, the obligation to carry them out is a state obligation because the states are signatory to the Colorado River Compact and will be signatory to this compact. That is all we are suggesting at this time is just that simple principle.

MR. HOWELL: I think I can go along with that all right. My only point is that the approach to it should be prevention of liability rather than determination of what shall be done when the liability occurs.

COM. BISHOP: Mr. Chairman, why couldn't the obligation in case of a shortage at Lee Ferry be met by each state in proportion to the available supply in the state for that year? I know from the records I have gone over in Wyoming that there are years when we have nearly twice as much water as we do other years. Maybe that same year we would have twice as much water the San Juan would only have a 50 percent supply. Why not work it out on a percentage basis of the available water in the state?

COM. STONE: I might say we are not proposing any method or do we believe that comes under this title. That is another matter to be taken up.

MR. HOWELL: My idea is that matter will have to be given further consideration as to what your method is going to be, determining what is the cause of the deficit or whether it is to be done by the arbitrary method by saying it shall be in proportion to the percentage of water allocated to the states. That is the reason I think it has got to be a matter of further study by the Engineering Advisory Committee and perhaps by the Legal Advisory Committee.

COM. STONE: I agree with you.

MR. WALLACE: May I make an observation?

THE CHAIRMAN: Mr. Wallace.

MR. WALLACE: In time of disaster the broader the field upon which the disaster falls the less is the concentrated disaster on a particular

area. Personally it seems to me it is wise for the entire Upper Basin to assume the obligation and in case of disaster permit the administrative body to so administer it so that as few people would be hurt as possible.

MR. PATTERSON: May I offer a thought?

THE CHAIRMAN: Mr. Patterson.

MR. PATTERSON: In line with Mr. Watson's hypothetical or illustrative case, speaking now for the Engineering Advisory Committee, it is very possible from the records, copies of which you have already been given, to calculate the relative amounts of water year by year if you want to, or month by month if you want to, that each of these principal tributaries historically has contributed to the total flow at Lee Ferry.

I have gone ahead of the official work of the Committee and have made some calculations along that line and without trying to explain them I will offer this one thought, that there is a very remarkable consistency when it is treated year by year and by ten-year averages as to the amounts of water furnished at Lee Ferry by the San Juan, the Colorado, and Green Rivers. It is really a parallel situation. They were all low in the drought; they were all high in the wet cycles.

MR. WALLACE: May I ask a question, Mr. Patterson? What was the condition during the current year as to the relationship between the Green and the Colorado?

MR. PATTERSON: I can't answer that, sir. I don't mean to say there are no departures but I am saying in general the average percentages of each of those streams are quite closely followed year after year.

MR. WALLACE: May I ask another question, Mr. Chairman, of Mr. Larson?

THE CHAIRMAN: Yes.

MR. WALLACE: What is the percentage of runoff on the Green and the runoff on the Colorado the current year?

MR. LARSON: I can't give you that answer.

COM. WATSON: Probably Mr. Wilson can.

MR. M. T. WILSON: Only in rough percentages. The Green River was about 120 percent of average and the Colorado at Cisco was about 100 percent of average.

MR. PATTERSON: You mean of its long-time average?

MR. WILSON: Yes.

MR. PATTERSON: That is true and yet it is also true that on a ten-year cycle in the '20's they were all about as high as each other based on ten-year averages. The drought cycle of 1931 to 1940, the same thing held true. The departures in 1931-1940 to the study period average showed a very remarkable similarity on all streams.

I am offering that as a thought of this kind: Instead of using arbitrary, hypothetical situations, your Commission will have records of that kind before it in order to study this question you are talking about when that question does come up for decision and base it upon more factual information and

variations in releases.

Just one other thought while I am speaking on this question of deliveries: It can't be entirely disassociated from the companion question of apportionment of uses. Amounts of water in a stream basin that are going to leave that basin--unconsumed outflows--to head towards Lee Ferry, are going to be modified by the amounts of water that are used or consumptively used in that stream basin. So that there is another control to deliveries and that is the control of or a limitation on uses. The two must not be entirely disassociated from each other.

MR. WALLACE: Mr. Chairman.

THE CHAIRMAN: Mr. Wallace.

MR. WALLACE: The point I am trying to make is that the broader the base upon which the disaster rests the less it is--how do I want to say it?--it is easier to bear. And personally, I would spread the disaster over as many shoulders as I could.

COM. STONE: The principle is correct and that could be accomplished when we get into the details of the apportionment of the obligation, and whatever that obligation is finally rests on the states and that is the point we are making.

MR. WALLACE: That is right.

COM. CARSON: Mr. Chairman, Arizona is not a state of the Upper Division and therefore it might appear that I am sticking my nose in matters with which we are not directly concerned, but my thought on this is that the two are very closely related, uses and obligations at Lee Ferry. Sometimes people fall into the error--I will take it to be an error--of stating that the obligation of the Upper Basin to deliver water at Lee Ferry is discharged when 75,000,000 acre feet every ten years is delivered whereas actually the obligation is to deliver all over a depletion of 7,500,000 acre feet by virtue of the provisions of the Colorado River Compact, which provides that surplus water should first be used to discharge the obligation to Mexico, which is 1,500,000 acre feet. When the long-time average flows of the River are considered according to our engineers, and the Upper Basin has depleted the flow of the River at Lee Ferry by 7,500,000 acre feet a year, the Lower Basin has depleted the flow at the Mexican Boundary by its apportionment of 8,500,000 acre feet a year, and the Mexican obligation of 1,500,000 acre feet is discharged, there remains in the River a surplus somewhere in the neighborhood of 220,000 acre feet and no more.

On this Upper Division obligation, I agree that it is joint and several. It seems to me for the Upper Basin to be able to reach a use of water which will deplete the flow at Lee Ferry by 7,500,000 acre feet a year, which is their right, that it will be necessary to have main stem storage reservoirs and that until they are provided it wouldn't be possible for the States of the Upper Division to so deplete the River. When they are provided on the lower reaches of the River within the Upper Division, then I think it could be worked out to where that storage would be accumulated there in wet years to carry over to deliver to the Lower Basin in dry years, which would prevent the onerousness of the effect of a drought in the Upper Basin; and that it will have to be worked out in some way so that they would come into and affect this question of what obligation is on each state.

I think Mr. Ollie Larson has an idea on that, of the possible effect of operation which I would like for him to explain now so people

can be thinking about it after the adjournment of this meeting.

MR. WALLACE: May I make an observation, Mr. Chairman? Of course I am not a lawyer and I have listened with a good deal of interest to the statement of Mr. Carson, and in that statement he has ignored two provisions of the Treaty. One is that it gives to all of the states ownership in the surplus and the other is that the Lower Basin may not call for the delivery of water that cannot be used for--

COM. CARSON: I haven't ignored them. I am assuming the Lower Basin will use up to its apportionment and the Upper Basin up to its apportionment and the surplus we have all agreed in the Compact should first be used to discharge the burden to Mexico.

MR. WALLACE: But there may be a surplus greatly above the amount necessary for use in Mexico. In other words, I would like to have some lawyers understand this, I would like the records to show that I cannot agree with the statement made by Mr. Carson at this time.

COM. CARSON: That is all right.

COM. STONE: May I concur in the statement by Mr. Wallace that leaving out any assumptions which Mr. Carson makes, is it not true that your theory, Mr. Carson, and your explanation is subject to the provision of the Colorado River Compact--

COM. CARSON: Yes.

COM. STONE: --that the Lower Basin cannot require the delivery of water and the Upper Basin cannot withhold water which cannot be used in beneficial consumptive use under the terms of the Compact?

COM. CARSON: Oh certainly.

COM. STONE: Then isn't it also true that all of the states of the Colorado River Basin under the terms of the Compact after 1963 may acquire an interest in the surplus--

COM. CARSON: Yes.

COM. STONE: --after deducting the amount which is required to be delivered to meet the obligations under the United States-Mexican Treaty?

COM. CARSON: Yes. I think I have taken all those into consideration too, Judge Stone.

COM. STONE: So that the Upper Basin does have an interest possibly in more than 7,500,000 acre feet of water.

COM. CARSON: Well, the balance, the surplus over and above the apportionment of 7,500,000 to the Upper Basin, of 8,500,000 to the Lower Basin, and 1,500,000 acre feet to Mexico, according to our engineers, is 220,000 acre feet based on long-time average flow. Now after 1963 if it develops that there is more water than that, why of course the Upper Basin as well as the Lower Basin States could share in it by the further apportionment of the water in the River.

But in figuring now on the obligation at Lee Ferry, until that apportionment is made it seems to me that the obligation is on the Upper Division to deliver the surplus at Lee Ferry for supplying to Mexico with that small

difference of 220,000 acre feet; and until that time of 1963 arrives so that the presence or absence of surplus could be further studied and understood, then on considering this question of the obligation at Lee Ferry and how it could be met, I think it can be met and the Upper Division can utilize that 7,500,000 acre feet of depletion at Lee Ferry by the construction and operation of reservoirs that would accumulate water over and above that 7,500,000 acre-foot depletion in wet years for delivery to the Lower Basin and Mexico in dry years.

And I think Mr. Larson, as I say, has an idea about the operation of those reservoirs and their necessity, which while it is probably not germane to the exact question you have raised as to the state obligation and the character of the obligation--and I agree it is a state obligation--I would like for him to make a statement in the record so you could be thinking about it by the next time we meet.

COM. STONE: May I ask Mr. Carson this question: Restricting the matter to the factor and question raised by Colorado, and irrespective of the matters which you now mention, whatever that obligation of the Upper Basin is, you agree it is an obligation of the individual states?

COM. CARSON: Yes.

THE CHAIRMAN: Mr. Larson, do you care to make a statement at this time?

MR. LARSON: I believe I can make a statement that might help this Commission in visualizing how a pool of reservoirs might be operated.

In the main stem studies that we are conducting in the Regional Office, which I have mentioned in several previous meetings, we are trying to explore the various methods of operating the River to get the largest irrigation yield out of the stream and to meet the obligation at Lee Ferry, whatever they might be, thinking that if we work out some basic data it would be helpful to not only your Commission direct but to your engineering advisers who may not go into all the details that we are going into. It is simply to be helpful and in making this explanation I will try to stay away from the legal entanglements and I also do not wish to be in the position of influencing the Commission in any way.

In the recent studies we have made in the past few weeks we have centered on three general plans of operating a pool of main stem reservoirs, those reservoirs starting at the lower end of the River beginning with Glen Canyon and going upstream as far as the Kendall on the Green and the reservoir on the Gunnison River in Colorado. We are sticking to reservoirs with a fairly good size. We are also trying to pick out a combination of reservoirs with the lowest evaporation and the greatest power head and that fits in best with stream regulation to equate the stream, to equate the Colorado and the Green so far as we can.

The first general principle would be to have a large holdover capacity, maybe 30 or 35 million acre feet, but anyway a capacity sufficient to store the entire flow of the Colorado River above Lee Ferry over and above releases made to meet the Compact, Mexican Treaty, or other requirements.

That would mean that to see what those plans might do in the future, we must go back and take the historic flow that the Engineering Advisory Committee has arrived at tentatively at least and then work through with an assumed yield in the Upper Basin, an assumed delivery at Lee Ferry--don't ask me what that is--and work it on through, subtracting

the evaporation depending on the stage in the reservoir in the combination we use. After you come forward from the year 1914 and you get into the wet cycle of 1922 to 1929, that is where you would have to have considerable capacity to store every drop that would not have to be released below Lee Ferry. That is the maximum holdover and also the maximum evaporation rate per year.

Now that is one general scheme.

THE CHAIRMAN: Pardon me just a moment, Mr. Larson. What irrigation development are you assuming in connection with that chain of reservoirs, that is what I am getting at, what consumptive use? Is that the maximum development?

MR. LARSON: Yes, it is a consumptive use that would just leave enough water to supply evaporation at those reservoir stages plus deliveries to below.

THE CHAIRMAN: In other words, that is the maximum?

MR. LARSON: You can't try to get what that maximum irrigation use is. Forget that. Go back to virgin flow.

THE CHAIRMAN: In other words, that is the maximum development possible with the Colorado River water supply for irrigation and meeting the obligation to the Lower Basin States and to Mexico?

MR. LARSON: Yes. We are trying to get an idea what that maximum is.

MR. WALLACE: What about delivery at Lee Ferry?

MR. LARSON: We must assume a rough figure for that. It may be right or wrong, but we have got to assume something. The second plan we would operate too like the first plan except that we would reduce maybe the number of reservoirs but at least the maximum holdover storage so that we would have lower evaporation rates, slightly smaller holdover possibly, and we would spill water in the high years from 1922 to 1929--we would spill some water. Then we would in that scheme immediately after the wet period ending in 1929--you get into the dry years of 1931 to 1934--we would then reduce the flow below 7,500,000 acre feet or eight or some other figure at Lee Ferry, to average up that spill that we made to deliver an average of 75,000,000 acre feet in any ten-year period plus any other deliveries that we might have to make. That is the second way.

The third way is to cut down reservoir holdover still more to save cost, save evaporation, and spill more in the wet cycle than we can recover, which doesn't appear to be good for the Upper Basin.

Under all three plans the amount of water that would be available for irrigation after we subtract releases to the Lower Basin and take out evaporation losses--the yield will change depending on how safe you operate that plan during that period 1914 to 1947. It appears--now this is my own opinion--it is my own opinion that it would only be good judgment to operate this pool of reservoirs safely and not scrape the bottom of the barrel, which in this period of operation from 1914 to 1947 does not come in the dry years of 1931 and 1934, it comes later, 1941 to 1946. We keep going down.

The reason we are running that operation through all three plans and some in between with a large margin of holdover is for these reasons--I tried to write them down as quickly as I could think of them:

The first reason is that all the projects for which there is water are not going to be built immediately so you will not get up to that full

amount right away. You can afford to carry over a large amount of water.

Second, you must keep, it seems to me, a large holdover in most of these reservoirs, say 10,000 acre feet or some other such figure, in order that you can keep up your power production while you don't need all the water, to pay for your projects, that part of the projects that irrigation won't pay unless of course Congress enacts some other law.

The third reason is that it would only be good judgment to operate the reservoirs very conservatively with the large holdover because we have so many unknowns. We talk about salvage, making an estimate of salvage. We won't know exactly what that will be. We may figure that vegetation along a stream is going to dry up by a less quantity of water, that is true; and be less evaporation, that may be true. But in building reservoirs we are also changing the grade into the stream and by lessening the velocity we might build up some places because the River does overflow and have more evaporation than we have now, I don't know. That may be isolated spots. At any rate we are talking about something that is going to be hard to determine exactly.

It is going to be hard to know what return flows are from projects. I have listened to that for two days with very much interest, how you are going to determine how much each state delivers to the stream and how much each state depletes the River. I am thinking about the San Juan. If the South San Juan, the Shiprock, the Hammond and the Animas-La Plata are built, we don't know what the return flow is exactly and some of the projects will be built surely before we have a long-time recording. Who will ever know whether the return flow is coming from this side of the River or that side or where it is coming from? We have the same thing on the Snake and a dozen other streams that are in more than one state, and even where it is within a state it will be hard to determine.

I can only see two ways, thinking out loud, of determining depletions, losses, and gains; that is by agreeing on a depletion rate for all the way from the headwaters downstream and go on that basis as fast as anyone puts land under irrigation; or try to measure the loss from the stream.

Now to me some of those questions might be answered in this holdover, that if you happen to arrive at a percentage of the water or your liabilities, then the pool should be operated on a percentage basis; and if those percentages, of course, are agreed upon, then a drought would appear one place or another and you went on the depletion rates, that would be absorbed in the whole operation and would not I suppose prove to be an isolation.

THE CHAIRMAN: Mr. Larson, isn't there another factor that enters into this maximum holdover storage which is the uncertainty of the exact inflow in the future in any period that you take as compared to the past?

MR. LARSON: That is what I tried to bring in there as one of my reasons that you wouldn't know the gains and losses and therefore you would want a large amount of holdover and for that similar reason you would want a large holdover against a possible dry cycle worse than any we have had.

THE CHAIRMAN: You might have a fluctuation in that ten-year period that you adopt which would be different than what you have experienced in the past.

MR. LARSON: Yes, but operating conservatively for a long period

with a large holdover would give you one other thing too: If you operate close to your belt, so to speak, and you have two dry years coming along, then you would be up against the proposition of making states turn water down. That would be difficult. This way, if you have a large holdover, dry years come along, you dip into that holdover and then you replenish in subsequent years when your runoff is better or adjust your whole operation. Of course that is going along when most of the lands are under irrigation a long time hence.

THE CHAIRMAN: My point, Mr. Larson, is this: that while you make up these theoretical reservoir operation studies, when it comes to the future when they are built and in operation, they will be operated on the basis of the best judgment you can get during that period of operation.

MR. LARSON: That is right.

THE CHAIRMAN: It may vary quite widely from your theoretical studies, which is in my opinion a very strong reason for maximum holdover.

MR. LARSON: That is right, take care of all the things we can't determine and don't know now.

MR. RITTER: Along that same line that Mr. Bashore mentioned, we have already gone through that experience in the Bureau. In planning Lake Mead we considered the drought cycle to be the cycle ending in 1904 and we went to great ends and a great deal of effort to determine what the flows were prior to 1904. Then the 1931 to 1940 drought came along and that was more severe than the drought ending in 1904. The 1931 to 1940 is still the most severe drought that happened in the Colorado River Basin; however it isn't true other places. I think what you are apprehending, Mr. Chairman, is that there might be a drought more severe than the one we now have record of, 1931-1940; is that what you are apprehending?

THE CHAIRMAN: Not necessarily that but a variation in that period of flow. Of course what you mentioned may happen but there also may be a variation of two or three years in there which is quite dissimilar to your adopted period for reservoir operation study. As you have mentioned in the operation of Lake Mead, it then had to be operated on the basis of the predictions that could be made by man.

MR. LARSON: I would like to make one other observation along with the comments of Mr. Patterson that to guide our thinking over there we have made some quick estimates--or not using the work of the Engineering Advisory Committee--and I think if you take the estimates of the contribution by states and averaged them for the ten-year dry period, the seventeen-year period from 1931 to 1947, and the period from 1914 on, you will find that for each state they differ less than two or three percent I believe.

THE CHAIRMAN: Mr. Larson, the Chair would like to ask you a question at this point: Do you think it is practicable to assume that you can set up a system of debits and credits in these main stem reservoirs and really operate on that basis? In other words, if a state contributes its allotment this year and twice that next year that it should be set up in the books so that later the state may not be called upon for a deficiency? Do you think a system of that character would be practicable?

MR. LARSON: Yes, it will if you can arrive at some formula as to use, either on the basis of the depletions or measurements, to get at the depletion and return flow. On that very point I would like to mention a small reservoir, the Deer Creek Reservoir in Utah, where we had a similar problem. We did not

have states but we had interests that were quite different. We had five metropolitan water districts, one irrigation district, and several canal companies. They were not only interested in purchasing a certain number of acre feet in the Deer Creek Reservoir but they were interested in hold-over collectively and individually.

That reservoir is worked out so that collectively as a general rule it will have a reserve holdover of 64,000 acre feet a year. Whatever evaporation is charged by the Water Commissioner is charged to the project supply as a whole. That is a collective water supply that belongs to the Provo Water Users Association. Now each subscriber of stock in that association then has the right to hold over water in the Deer Creek Reservoir each year that the capacity is available and his right is not in direct proportion to the stock he owns but it is in proportion to the relation of the percentage of his stock to every other stockholder that is holding water over in that reservoir that particular year.

Now if we have runoff that comes along and crowds these individual stockholders out, the spill comes first from the stockholder having the most holdover in the proportion his stock bears to every other stockholder holding over water, and then comes the next fellow and then it spills from both of them until they reach the third fellow, and it goes on down to the last one and then they all spill equally in proportion to their percentage. We have worked it for five years and it works swell. We keep books every day and it works out very well. The evaporation is charged to each one according to his acre feet per month.

THE CHAIRMAN: Mr. Larson, while you no doubt have used that method successfully on the Deer Creek Reservoir, you must remember we are talking about a chain of reservoirs and this bookkeeping account of that character would seem to be quite complicated, at least to the Chairman.

MR. LARSON: Well, there won't be over half a dozen main stem reservoirs I don't think, Mr. Chairman.

THE CHAIRMAN: Well, it seems to me this water would have to be chased through each reservoir and an account set up for that water and the Chairman is at least at this time of the opinion that such a system of debits and credits would introduce complications galore.

MR. LARSON: You asked me if it could be done.

THE CHAIRMAN: And you gave me a good answer also; and it is the hope of the Chairman that some way of putting this water that reaches the main stem reservoirs into a pool will be worked out eventually.

MR. ROLLINS: Mr. Chairman, may I ask Mr. Larson whether or not there will be one or more reservoirs on the main stem or tributaries sufficiently high up so that we in Wyoming could be taken care of in case of dry years not only on our obligation at Lee Ferry--and I think that could be taken care of through a pool of reservoirs lower down--but if we didn't have one of those reservoirs high enough so that in case of severe drought we couldn't be taken care of so far as our actual operations are concerned?

MR. LARSON: Mr. Rollins, the Kendall Reservoir is the largest reservoir of any consequence high on the Green River in Wyoming, the highest point. We have been working on the operations of that reservoir to take care of any needs, including carryover for drought years, on any potential projects in Wyoming. As far as meeting obligations at Lee Ferry, certainly the obligation of Wyoming can be met just as well in a reservoir lower down than one

way up at the head of the stream.

MR. ROLLINS: If the Kendall Reservoir, of course, is in your thinking at this time so that you are making sure we are protected, that is all I want to know.

MR. LARSON: It is not just in our thinking; we did about \$10,000 worth of drilling a couple of months ago.

COM. WATSON: May I ask what the evaporation rate is at the Kendall?

MR. LARSON: I have listed the evaporation rates of all reservoirs at previous meetings. I would like the Commission to know our estimations are very, very rough. The reservoir sites should be carefully inspected and that is what we intend to do, to arrive at a more exact figure. But a rough figure I have arrived at up to now is about 26 acre feet per thousand acre feet of capacity per year at Kendall.

THE CHAIRMAN: Thank you, Mr. Larson.

COM. STONE: Mr. Chairman, on this question which is before us and the factor which was suggested by Colorado for consideration, the discussion has gone into details of matters which must be finally decided by the Commission. In order to get the specific question before the Commission I should like to make this motion:

It is moved that recognizing the necessity of working out a method for meeting deliveries at Lee Ferry under the terms of the Colorado River Compact, spread over the Upper Basin on an equitable basis so as to minimize the effects of such an obligation, that whatever the several obligations of the States of the Upper Division may be under the final determination of this Commission shall be and constitute a State obligation.

THE CHAIRMAN: Is there a second to the motion?

COM. STONE: I attempted to incorporate the principle suggested by Judge Howell and to confine this motion to the simple question of it being a state obligation as distinguished from the obligation of certain tributaries or individual projects or groups of projects. And if you want to make that motion read "it is tentatively", I will be glad to incorporate that.

THE CHAIRMAN: Is there a second to the motion?

COM. WATSON: Second the motion.

MR. WALLACE: The only comment I repeat is, the broader the base the less suffering.

COM. STONE: I included that, Mr. Wallace. I included that principle here by these words--

COM. WATSON: Read it all over again, Judge; then we will get it clearly.

COM. STONE: I would suggest that the reporter strike out my other motion and I will read it again and incorporate the word "tentatively."

I move that recognizing the necessity of working out a method for meeting deliveries at Lee Ferry under the terms of the Colorado River Compact--then Mr. Wallace--spread over the Upper Basin on an equitable basis so as to

minimize the effects of such an obligation, it is tentatively agreed by the Commission that whatever the several obligations of the States of the Upper Division may be under the final determinations of this Commission, these obligations shall be and constitute a State obligation.

THE CHAIRMAN: Does the Chair hear a second to the motion?

COM. WATSON: I second the motion. I understand the word "tentatively" is in there.

COM. STONE: That is incorporated, Mr. Watson, yes.

THE CHAIRMAN: The Chair would like to ask a question: Is it or is it not a fact that this motion is disposed of by the respective state laws and what effect would a motion or a resolution by this Commission have on the matter?

COM. STONE: Well, Mr. Chairman, there have been proposals made here which transcend state laws and it simply brings out the proposition that it is in the end, whatever the obligations are, an obligation of the respective states. You could argue that is the law anyway but some may disagree. It is simply a matter of principle.

THE CHAIRMAN: Off the record. (Discussion off the record.) You have heard the motion and the second. Is there any discussion of the motion?

MR. BLISS: Judge Stone, there seems to be some question. Simply stated your motion means that whatever the states' obligations, they administer their own affairs within their own state?

COM. STONE: Has that effect, yes. It is a state obligation rather than the obligation of anyone else or any group of persons. In my judgment it is a clear question of law because the states are signatory to the compact.

MR. WALLACE: Mr. Chairman, I am asking Mr. Watson if I may say a word or two. I feel very strongly that the obligation at Lee Ferry is an obligation on the Upper Basin States, and that the 7,500,000 acre feet allocated to the Upper Basin is on the same priority excepting that people who actually built and constructed and used a project prior to the ratification of the treaty have a priority; all the other water is on the same basis. I must allow that being so any state can arrange its own priorities within its own allocation, but I think it would be a very desirable thing indeed that in case of extreme drought, the administrative body could say to everyone within the Basin, "You plant three-quarters of a crop this year in place of a full crop." In other words, I think some of these things could be left safely to an administrative body that is constituted fairly and on which we can depend to act equitably. I don't like the idea of lessening the area that bears the burden of a catastrophe.

COM. WATSON: Mr. Chairman, the Colorado River Compact as I read it did not provide for an extreme emergency such as extreme drought, which was incorporated in the Mexican Treaty. It was therefore the thought of the framers of the Mexican Treaty that contingencies might arise that had not been thought of by the framers of the Colorado River Compact for which we must provide. Would it not be well for this Compact Commission to provide for that contingency in a manner similar to the way the Mexican Treaty provided for it and along the line Mr. Wallace has just spoken?

MR. BREITENSTEIN: May I say something, Mr. Chairman?

THE CHAIRMAN: Mr. Breitenstein.

MR. BREITENSTEIN: I recognize the point that Mr. Watson just raised in the list of factors I gave yesterday, I raised that very point, but I consider that is a separate and distinct point from the one we are preparing for here. Recognizing what Mr. Wallace says, nevertheless I think you cannot escape the fact that the states as states are signatories to the Colorado River Compact and that the obligations are state obligations.

Now Mr. Wallace suggests that it might be well in times of extremity to tell everybody, "You plant a half or three-quarters crop." Perhaps that is the equitable thing to do but so far as the states of which I have any knowledge are concerned you are going to have to change your state constitution and the Constitution of the United States before you are going to do that.

MR. WALLACE: I can't agree with that.

MR. BREITENSTEIN: How can you tell No. 1 to plant only half a crop? No. 1 has a vested water right.

MR. WALLACE: There are a lot of things where you are managing a situation in case of extreme drought or catastrophe where by agreement the strict interpretation of the law is set aside and voluntarily all the people agree that under the catastrophe circumstances, certain other rules apply.

MR. BREITENSTEIN: Yes, but, Mr. Wallace, you are talking there about a voluntary agreement. We are talking here about a compact which will have the effect of a law. That must comply with our various state constitutions. Certainly in times of extremity we may all want to be good neighbors and we may voluntarily agree to do this and I say that is fine and dandy. But we can't write that into a compact unless you are going to change some state constitutions and also the Constitution of the United States.

MR. WALLACE: I only refer to the one thing that sticks in my mind that I want to broaden the base of the area that has to pay for a catastrophe that is local in its character.

COM. STONE: In answering the suggestion of Mr. Wallace, assuming for the sake of principle we are attempting to set out in this motion that that could be accomplished, but recognizing that there are probably constitutional questions involved, and if we did work out a broad base or whatever base we work out, the obligation to effectuate carrying out that base of deliveries finally becomes a state obligation. In other words, one state can't exercise extraterritorial jurisdiction over another and the states are signatory to this Compact and whatever we do agree to, without commenting upon what arrangements we will make to spread this obligation, that is a detail which we haven't discussed--but whatever we agree to becomes the obligation of a state to carry it out. That is on my motion.

MR. WALLACE: May I say, sir, with the allocation of a given amount of water there goes a concurrent obligation.

COM. STONE: That is unquestionably correct.

THE CHAIRMAN: Is there further discussion of the motion?

COM. BISHOP: Mr. Chairman, it seems to me it is a joint obligation regardless of any agreement we make here for the simple reason that there will

be times evidently when some state doesn't have the water to pay and then the others have got to pay. It is just like this joint note Mr. Breitenstein talked about a moment ago. It has got to be paid. It looks like it is a joint obligation regardless of any agreement we make.

COM. STONE: Let's distinguish between the Colorado River Compact and the compact we are negotiating. It is a joint and several obligation under the Colorado River Compact. We can agree here as to the manner in which we shall carry out the several obligations and that is what we are dealing with. In other words, if we make an agreement, whatever it may be, for the meeting of this obligation at Lee Ferry and if a state violates that agreement, that violation is a violation of the state and the state is responsible for it. That is all this goes to.

COM. BISHOP: Let me give you a concrete example of what I have in mind: We will say we get 20 percent of this water and we are assessed 20 percent of the obligation at Lee Ferry but we have a drought in the Green River Basin and we don't have but 10 percent. Certainly we aren't violating anything if we can't produce that water and Colorado has got maybe 20 or 30 percent more than their obligation and they are on that note with us and as I said it is their obligation to pay and there is nothing we can write into an agreement or a compact that would keep the Lower Basin from compelling them to pay.

MR. BREITENSTEIN: May I say something in answer to what Mr. Bishop said?

THE CHAIRMAN: Yes.

MR. BREITENSTEIN: Say we don't have a drought, Mr. Bishop; say instead of having a drought we in Colorado take 5,000,000 acre feet over the mountains and that is the reason you have your deficit down at Lee Ferry. Now what would you say on that? There you have the reverse.

COM. BISHOP: I would say cut off the transmountain diversions right now.

MR. BREITENSTEIN: Say we use 5,000,000 acre feet in the Basin which is more than our share and your water is going to make up a delivery down at Lee Ferry; don't you think you would have some recourse against us to compel us to do the right thing?

COM. BISHOP: That is a different situation.

COM. STONE: That is the situation we are talking about. Who is your recourse against? Is it against the state or is it against some individual?

COM. BISHOP: I agree with you that each state should live up to their obligation within their ability to do so, Judge.

COM. STONE: You can't get any recourse unless you rely on the state and that is all this means. It has been suggested that this might be clarified by inserting these words: "That recognizing the necessity of working out a method for meeting"---I have---"deliveries"---"meeting the joint and several obligations to make deliveries at Lee Ferry." And I will add those words to my motion to clarify the intent.

COM. WATSON: I will second the motion under those conditions.

COM. WILSON: May I ask Mr. Breitenstein a question?

THE CHAIRMAN: Yes.

COM. WILSON: Under those assumptions you gave a moment ago about Colorado and Wyoming you said there ought to be a liability which Wyoming could pursue against Colorado if Colorado did what you suggested. Now what is your idea as to the nature of that right Wyoming would have against Colorado? Would it be a suit for damages or a suit for specific performance in the future? What is the nature of the obligation that Wyoming would have a right to look to Colorado to make good?

MR. BREITENSTEIN: Well very unfortunately, Judge Wilson, Colorado and Wyoming have been just in that situation once before; and the Wyoming authorities no doubt after very serious consideration of what they might do, brought an action in the United States Supreme Court to have Colorado cited for contempt of that Court. Here it would be for breach of a contract rather than a violation of a Supreme Court decree.

In that connection I am sure that both the attorneys for Wyoming and Colorado did consider what the Supreme Court might do and if you look in the law books there is one decision of the United States Supreme Court which indicates possible methods of approach to that problem including the use of force. But that is a matter on which there are decisions, at least one rather pertinent, and an action against the state for breach of a contract probably in the first instance would take the form of an injunction to prevent further violations of the contract and perhaps requiring some remedial action to alleviate whatever damages had been incurred.

I will just conclude by saying in that case brought by Wyoming very fortunately Colorado was found to be not in contempt.

COM. WILSON: Then the purpose of this motion is to make it clear that there is a liability on the part of one state to another state in the Upper Basin--

COM. STONE: That is right.

COM. WILSON: --rather than just to declare the plain law from the Colorado River Compact angle, it is a state obligation. In other words, the Lower Basin looks to the states to carry out their contract. But the purpose of this is to create a liability in favor of one state in the Upper Basin as against another if the states do not carry out their obligation.

MR. BREITENSTEIN: You know, Judge Wilson, the more I have listened to this discussion the more I have come to the conclusion that Colorado was wrong in raising this point because thus far we have been producing most of the water. We are sticking our necks out on it. I think we made a mistake in raising the point frankly.

MR. GILES: I don't think so. I think your motion is good. As far as I am concerned I see absolutely no harm in it. I think it is necessary in the considerations that are before this body right now.

COM. WILSON: I wasn't arguing against your motion; I was just trying to understand it.

MR. HOWELL: Can't it be simply stated this way: It is simply a contract for contribution of those who are jointly obligated.

MR. BREITENSTEIN: That is right and that is all it is, Judge Howell.

COM. STONE: And the parties to the contract are to meet the obligation.

MR. HOWELL: Yes.

MR. WALLACE: Off the record. (Discussion off the record.)

THE CHAIRMAN: It has been suggested that in view of the rather sharp discussion which this item has provoked that the matter be laid over until tomorrow morning and that the Chairman keep his promise to adjourn this meeting at 3:30. Is that satisfactory to the Commission or do you wish action on the motion at this time?

COM. STONE: Colorado wouldn't press action at this time but if there is no objection to it we might as well dispose of it.

THE CHAIRMAN: Are you ready for the question?

COM. WATSON: Question.

(Com. Stone's motion as amended was as follows: I move that recognizing the necessity of working out a method for meeting the joint and several obligations to make deliveries at Lee Ferry under the terms of the Colorado River Compact spread over the Upper Basin on an equitable basis so as to minimize the effects of such an obligation, it is tentatively agreed by the Commission that whatever the several obligations of the States of the Upper Division may be under the final determinations of this Commission, these obligations shall be and constitute a State obligation.)

(Thereupon a vote was taken and Com. Stone's motion as amended carried unanimously.)

THE CHAIRMAN: We will convene here tomorrow morning at nine o'clock.

(3:30 p.m., Wednesday, December 3, 1947, recess until 9:00 a.m., Thursday, December 4, 1947.)

Denver, Colorado
December 4, 1947
9:00 o'clock a.m.

(All Commissioners present.)

THE CHAIRMAN: The meeting will come to order.

COM. STONE: If you are on the record may I take up a preliminary matter which this Commission should consider before we adjourn? I do it now for fear I will forget it after we get into discussion of other matters. It is this matter:

It was indicated to the Commission I believe on the first day of this session that the Engineering Advisory Committee had sought the advice of Mr. Blaney on the question of beneficial consumptive use of water. It was explained to the Commission and many of us know of our own knowledge that Mr. Blaney is perhaps the outstanding expert in this field in the United States. The thinking of the Engineering Advisory Committee as I understand it--and if I am wrong Mr. Riter can correct me--is that they would like to have their conclusions on this subject reviewed by an outside impartial person, and fortunately there is such a person available who is recognized as an expert in the field.

Some discussions have been had with Mr. Blaney regarding his services. He is a Federal man. What is the Agency that employs him, Randy?

MR. RITER: Soil Conservation Service.

COM. STONE: His boss, Mr. Clyde, has agreed that Mr. Blaney's services may be made available without any cost to the states or this Commission, but due to limited appropriations nothing is available for the travel expense of Mr. Blaney. It would be necessary for him to meet with the Engineering Advisory Committee, and as I am advised, to make a field trip over the area involved. At least the field trip has been recommended by the Engineering Advisory Committee and deemed advisable by Mr. Blaney. If this Commission is to have the advantage of his consulting service free of charge we must make available the travel expense, and it would seem to me we ought to take advantage of it, particularly since it is recommended by the Engineering Advisory Committee, that we ought to find ways and means of providing the travel expense.

I am informed that the field trip and for attending meetings of the Engineering Advisory Committee, that such travel expense would not exceed in all a thousand dollars. I would apprehend that no portion of the expense should be charged to Arizona because of its limited interest in the work that Mr. Blaney would do.

I would like to suggest--I am not going to put it in the form of a motion until there has been some discussion of it--that we arrange to provide that travel expense. I want to say for Colorado, my State is willing and thinks it advisable to provide our share of that travel expense.

COM. BISHOP: Judge Stone, I think that is a mighty good idea. Wyoming will go along and gladly pay our share. We want the field trip to include Wyoming's part of the Basin and Wyoming will go along in furnishing transportation for the party to go over our Basin. We would like to know ahead of time when he is coming. We will go along with you 100 percent on that.

COM. WATSON: Utah will carry its burden and its proportionate share of the total expense.

THE CHAIRMAN: What about New Mexico?

COM. WILSON: I think this expense can be handled just as the other ordinary expenses of this Commission like stenographic expense and things of that kind, and New Mexico is willing to pay its proportionate share just as we have on the other expenses. Is that your idea, Judge Stone?

COM. STONE: Yes, that was my idea. And there is another detail which ought to be considered by the Commission in connection with this matter. These states all have different rules and regulations about state travel, and obviously a man working in this capacity as an outsider cannot comply with the rules and regulations of all of the states. It seems to me that the money to cover this expense ought to be paid into a common fund in the hands of the Secretary of this Commission so that when Mr. Blaney submits his travel expense, it could be paid by the Secretary.

COM. BISHOP: The Attorney General can speak for himself but I believe according to the rules that have been made by our Attorney General and his predecessor, they would have to submit a bill for the expense after it had been incurred. I will pass that on to you, Mr. Gray.

MR. GRAY: Well, I think if a statement were submitted from the Commission itself, Mr. Bishop, we could handle it all right. I have some funds available for that purpose if you can't get them.

COM. BISHOP: That is all right. That is what I wanted to know.

THE CHAIRMAN: Gentlemen, I wonder if you have explored this question of travel expense thoroughly. In the beginning of this work your Chairman took matters up with the various Federal Departments and it is my recollection there were no strings attached to the help which the Department of Agriculture was willing to furnish in working out the problems of this Commission.

COM. STONE: I can answer that question, Mr. Chairman. The Department of Agriculture does not have any strings in furnishing the services but Mr. Clyde says emphatically that he has no money to even carry on travel expense which he deems necessary for his own purposes and that he has no money to pay these travel expenses for Mr. Blaney. He said he would do it if he had it but he recognizes this work has to be done expeditiously and now, and he can't wait until another fiscal year. I saw him at Phoenix after some of the members of the Engineering Advisory Committee had talked to him and he said he regretted that that was the situation.

THE CHAIRMAN: Well in this connection I might say that Mr. Selby has been doing work in regard to the value of irrigation on these pasture lands. Apparently there was no difficulty in finding funds for that and of course my communications were with the Secretary of Agriculture. Mr. Brannan's letter to me didn't put any strings on it and I am wondering in this connection if the matter were taken up again with the Secretary of Agriculture that the matter might be disposed of.

COM. STONE: Mr. Brannan and Mr. Clyde and the big-shots were all in Phoenix and the matter was fully discussed within their own group and this offer of Mr. Blaney's services was made strictly contingent upon that condition that we would have to furnish the travel expense.

THE CHAIRMAN: Very well. All right. The Chairman is satisfied then.

MR. RITER: Off the record. (Discussion off the record.)

THE CHAIRMAN: Are you ready to make a motion?

COM. STONE: Yes. To get the matter before the Commission I move that the four participating states, Colorado, New Mexico, Utah, and Wyoming, share equally the travel expense incurred in obtaining the consulting services of Mr. H. F. Blaney for the Engineering Advisory Committee; and that Mr. Blaney's expense vouchers be submitted to the Secretary of this Commission, who will then call upon these states to contribute their share on an equal basis.

COM. WATSON: Second the motion.

THE CHAIRMAN: Is there further discussion of the motion? (No response.) Ready for the question?

COM. WATSON: Question.

(Thereupon a vote was taken and Com. Stone's motion carried unanimously.)

THE CHAIRMAN: At this time we would like to hear from the State of Utah and its presentation of the factors which it thinks should be considered in the negotiation and formulation of the proposed compact.

COM. WATSON: Mr. Chairman, ladies and gentlemen, I realize that a statement of this kind is somewhat repetitious considering what has been said and that it may be imperfect; however, the group from Utah wishes to submit this statement in writing for your consideration and criticism. The statement involves both principles and factors.

"In negotiating the Upper Colorado River Basin Compact, the two primary problems are (1) to divide the water equitably, and (2) to allocate the obligation at Lee Ferry. Our objectives have already been well defined in Article I of the Colorado River Compact, wherein our major purposes are declared to be 'To provide for the equitable division and apportionment of the use of the waters of the Colorado River System; to establish the relative importance of different beneficial uses of water; to promote interstate comity; to remove causes of present and future controversies, and to secure the expeditious agricultural and industrial development of the Colorado River Basin . . .'

"To accomplish the objectives of an equitable division of the water, no one factor should control. In the light of the present data, consideration of the following factors appears to be essential:

"1. We recognize that the Colorado River Compact is the existing law of the River.

"2. We must protect existing rights; by existing rights we mean those rights acquired by appropriation, and having vested prior to the ratification of the Colorado River Compact. Any rights initiated to the use of Colorado River water thereafter must, as between the states, be recognized as having equal priority.

"3. Since we have declared it to be one of our major purposes to establish the relative importance of different beneficial uses, and since each state in the Upper Colorado River Basin adheres to the doctrine of prior appropriation, Utah believes that the fundamental precepts of that doctrine must be given considerable weight in any equitable apportionment of the water.

The cornerstone of that doctrine is, beneficial use. In states following the appropriation doctrine it is universally held that beneficial use is the basis, the measure and the limit of the right. In apportioning the water, regard must be had for potential beneficial uses.

"4. Because of wide fluctuations from year to year in stream flow, the maximum use of water available to the Upper Basin States is entirely dependent upon availability of storage facilities. Storage water subject to call is more valuable than direct flow. The total amount of water that can be consumptively used by the Upper Basin through direct diversions can be greatly increased by the efficient use of storage facilities. Utah asserts that the contribution of such facilities has an even higher use value to the Upper Basin than does the contribution of water. Therefore, an equitable apportionment of the River's water requires that contribution of storage facilities by any state be given substantial weight.

"5. The ultimate development of the States of the Upper Basin depends on the availability of cheap electric power. The fast-growing industries of the Upper Basin offer a ready market for this power, provided of course that at the same time water is made available for domestic and irrigation use. We, in Utah, believe that the availability of cheap hydroelectric power throughout the Basin lies at the foundation of our prosperity.

"6. For the ultimate benefit of these compacting states it is indispensable that storage facilities be selected on the basis of their greatest efficiency.

"In addition to the factors or principles set out above, Utah recognizes that there are various problems which should be resolved before a compact is written. In that regard we list the following for purposes of discussion:

"1. A Board of Control consisting of a representative from each state and from the United States should be created to administer the River in accordance with the terms of the compact.

"2. The question of whether this compact shall endure in perpetuity or for a fixed term should be resolved.

"3. The rights of the United States and its agencies should be determined and protected either independently, or as a part of the allocation to each state, or otherwise.

"4. It should be determined how comprehensively this compact should cover particular problems interstate in character affecting less than all of the states.

"5. The methods to be adopted to control operation of main stem reservoirs.

"6. Determine consumptive use.

"7. The priority of water uses should be fixed.

"8. The basis for allocation of the obligation at Lee Ferry should be determined.

"9. We should establish the basis for dividing the water

apportioned to the Upper Basin by the Colorado River Compact."

I realize there are several outstanding points that may not have been discussed although they were mentioned. I would like to spend a few moments in discussing some of these problems that Utah considers outstanding. What I say may apply to all of the Upper Basin States in some respects and I am not contending that Utah alone contributes all of these factors. Some of them I shall mention obtain in all the states, and certainly I do not wish to make an argument about it.

I believe that very few of us realize the great development that will take place in the next twenty-five years in the Upper Colorado Basin. I do not think any of us are conscious of that fact. I shall make mention of a few of the resources.

In the Upper Colorado River Basin, as you all know, we have one-third of the coal reserves of the United States. We know also that the petroleum reserves of the nation are dwindling very fast and that the creation of synthetic processes for the manufacture of liquid fuel from coal have advanced at a rapid rate. By 1965, it is believed by some that the daily consumption of oil in the United States will be seven million barrels. One-half of this amount, it has been estimated by experts, will have to be furnished by synthetic fuel and not from the underground as it is in our present economy. Therefore, the coal reserves of the Basin will be drawn on very rapidly, not only for the uses of coal itself, but for the synthetic manufacture of oil. Oil-bearing shale will also be utilized. The hydrogenization of coal will probably be adopted prior to the use of shale for oil.

This coal in the Basin will be used, in addition to the process of hydrogenization, for the establishment in the Basin or out of the Basin of very large chemical plants. That is best shown by the fact that at the present time in the United States organic chemical factories are twice in number to the inorganic factories. This presses the question to the utilization of coal for these organic processes. I call your attention to the fact that even the Denver & Rio Grande and Union Pacific railroads are using oil for transportation at the present time.

The development of this coal will be common to all the states; however, tied in with the industries using coal, there will be still other industries that will be affected which I shall mention briefly a little later.

The Basin also contains very large deposits of carnallite near Thompson, Utah. The carnallite deposits are valuable and contain magnesium and potassium chloride. They are similar in extent to the deposits that made pre-World War I Germany. We have them in large quantities near Thompson, Utah.

I wish to mention in passing the phosphates which occur in all three states in the Basin, Colorado, Wyoming and Utah, and also out of the Basin in Idaho. In the area around Vernal the phosphate deposits are readily accessible as they can be mined by a steam shovel. They dip slightly away from the south flank of the Uinta Mountains. They are those white beds just at the bottom of those brilliant red beds. They lie in large quantities near Echo Park damsite where electricity will be available for their exploitation.

Tied in with all of these resources is the availability of hydroelectric power around which the development of the main stem of the river will be largely built. The State of Utah has recently issued a power survey report in cooperation with the Federal Power Commission. That report is available to any of you if you will write to the office of the State Engineer. The report predicts that Utah's demand for hydroelectric power in 1970 will be 800,000

kilowatts and by 1990, 2,500,000 kilowatts.

We think in Utah that these great resources will react to the benefit of all of the Basin states. A large part of the industry will be concentrated on the Wasatch front due to the fact that power will be transmitted a lesser distance. And may I add that it will be necessary for the Government to control the transmission lines. It will transmit the electric power into all surrounding states. However I repeat that the United States Government must control the transmission lines of the power projects in order to get cheap electricity to the people.

Now, over on the Wasatch front, we think that inasmuch as a large population has grown up there and that a great steel plant has recently been built that will bring in many accessory industries, this hydroelectric power developed on the Colorado River will be marketed very largely in that area. In fact, authorities have stated that eighty percent of the power marketed will be on the Wasatch front.

If that should be the case, we must consider the question of beneficial use and the order of beneficial use would be very high indeed in that area. I do not contend that the beneficial use in the Colorado-Big Thompson area is not of a high order but I do contend that in the area along the Wasatch front it would probably be of the very highest order. Water will be demanded for municipal use, for the raising of high-priced crops and for the operation of large industrial units in connection with Geneva and Columbia Steel. We therefore think that a definition of beneficial use is primarily important.

Regarding the division of the water between the States of the Upper Basin I think that there should be no priorities built up between the states since the time of the consummation of the Colorado River Compact. We hope that the State of Colorado can get its transmountain diversions and likewise we believe that Wyoming, New Mexico and Utah can get certain projects. We think that there is water available for these projects, even if we consider the minimum flow of the River. Certainly there is enough to give all of us a good start, even though we are compelled to divide only part of the water.

COM. STONE: Mr. Chairman, Colorado wishes to commend Utah for a constructive statement of the factors and principles involved. We wish of course, in line with the ones submitted by Colorado, to consider all of those questions mentioned. They deserve serious study and consideration.

COM. BISHOP: Mr. Chairman, I wish to compliment Mr. Watson on a very excellent statement and while I don't agree with all the statements he made, I think he has outlined factors that must be considered and I think we should recognize that and go ahead and consider those factors.

COM. WATSON: May I add that regarding all these transmountain diversions which appear so costly at the present time, we believe that hydroelectric power generated on the Colorado River above Lee Ferry will pay for all of them and for all feasible irrigation projects whether they are located in Wyoming, Colorado, New Mexico or Utah. If the profits from that power can be pooled, we will all benefit.

THE CHAIRMAN: The Chair observes, Mr. Watson, that you don't say in what length of time these projects will be paid for by power and I think it is very well you didn't attempt to limit it.

COM. WATSON: I think that is a very moot question and of course I

realize, Mr. Chairman, there is a great controversy between public and private power but I wish to add this observation: If it hadn't been for the very great resources of public power in the Tennessee Valley and in the Columbia Basin and at Boulder, we never would have won this war because we never could have manufactured the aluminum to make the airplanes which put out the eyes of the enemy. Neither could we have manufactured an atomic bomb. Now if public power can win the war, which it did as the greatest single contributing factor, public power can also win the peace. Likewise it can develop the Colorado River.

THE CHAIRMAN: Does the Commissioner from Arizona wish to submit any statement as to factors which in his opinion should be considered?

COM. CARSON: No, I don't think I could bring in any new factors that haven't already been mentioned. I think I could say this: that in my judgment some factors have here been mentioned and the discussion has taken a wide range that cannot probably be imposed in any compact that may be worked out. It seems to me the compact we must work out and all want to work out is confined to an equitable apportionment of the water of the Upper Basin and to arrive at that we must have information, not only as to the flow of the River at Lee Ferry but as to the flow of tributaries which in themselves are interstate, and any compact written must provide what portion of any state's share will come out of one of those tributaries which are in themselves interstate.

Then when we have arrived at that, and on the percentage basis which has been tentatively adopted, I believe we will be down to where we can begin to formulate or negotiate a compact of the percentages allowable to each state, specifying what part of that percentage would come from an interstate tributary.

On the other, in the main we recognize of course that we in Arizona are very slightly interested in the Upper Basin water and the division of that water; so we want to go along and be as helpful as we can in working out a compact but are not directly involved in the percentages which should be allowed to each state.

THE CHAIRMAN: It is your idea, I suppose, Mr. Carson, that the information which you mention cannot be finally and definitely determined but that it can be approximated, and it is realized it is based on a moving average.

COM. CARSON: That is correct, and the percentage would probably balance out any changed conditions or error that might result now in any of the engineering studies as to estimated evaporation losses, depletions, and salvage, so that it would work equitably and fairly. I don't take it that the flow of the Colorado River or any of its tributaries is capable of exact ascertainment or prediction as to what it will be in the future, but we can come as close as we can and then try to be fair. Then if there is any change on the percentage method it would affect all equally that are involved in that particular interstate tributary or the main stream.

THE CHAIRMAN: The Chair thanks both Mr. Watson and Mr. Carson. Now the Commissioner from New Mexico, do you have any further factors to suggest for consideration of the Commission?

COM. WILSON: Mr. Chairman, I will say at this time I want to join with the others in complimenting Mr. Watson of Utah for his very excellent presentation of many factors that are important and which we must consider. I have nothing personally to add to what I said the other day in attempting to make a statement that avoided detail and tried to stay within what I regard as fundamentals. However Mr. Bliss I think has some factors he would like to mention and discuss at this time.

MR. BLISS: Mr. Chairman, I would like to second what Judge Wilson and Mr. Carson have said. I think we are taking up details at the present time which to some extent, perhaps in some cases to a large extent, will be dependent upon the main issue which apparently we are now avoiding, the issue of the division of the water. I have a few comments which have been mentioned in Colorado's excellent presentation and which have been mentioned to some extent by Utah and Wyoming, but which I want to repeat because they apply directly to the State of New Mexico. I think the other states have made an excellent presentation of factors which must be considered. The items I have to present are these:

1. An agreement between the states covering the allocation of water must of course include agreements as to the obligation of tributary stream flows. This is axiomatic perhaps and yet I think it should be mentioned at this time.

2. There is a question whether or not allocations to the various states can or should be final at this time; or whether tentative allocations can be made which could be increased or perhaps decreased at a later date.

3. The question of Indian rights. Should allocations to the Indians be a part of each state's obligation or should the allocations in the compact to the Indians be made separately, as though to a sixth state? This is a matter of vital importance to the State of New Mexico. The fact that perhaps 90 percent of the water which may be available to New Mexico could physically be used on Indian land to the exclusion of white lands emphasizes the importance of that problem. I don't say that such percentage could be economically used on Indian lands but physically it could be. I believe that the Indian Service should be required, in spite of the Winters decision or any other Supreme Court decisions, to come in at the time compact allocations are made and commit themselves once and finally to whatever their claims may be. I think it is essential to the complete allocation of the water of the River that they be required to do so. I don't see how a satisfactory agreement can be drawn if the question of Indian rights is forever unknown and variable.

4. The question of the function of these main stream reservoirs. As has been pointed out it is evident that in spite of the preeminence of irrigation rights the only way we are going to pay for many of these irrigation projects is by the sale of power. If we recognize that principle, then it seems to me we have got to so operate our power pools that they can at all times supply the firm power to pay these costs. That may be a detail of operation but I do think it is important.

Another factor to be considered concerns the rights and obligations of the states in the main stream reservoirs. In former interstate agreements the principle of the sovereignty of each state's rights within its own boundaries is recognized. Yesterday we adopted that principle by a motion unanimously passed. But I am wondering if in the operation of the main channel reservoirs some different arrangement may not have to be made. I don't know. If the states are to have individual ownerships or rights in the reservoirs, that is one matter. If they are to have joint or common pool rights in a reservoir, that is another matter. If the states exercise individual rights in the common reservoirs, the Commission must consider the matter of contributions, the liability of each state for reservoir losses and their liability for deliveries from the reservoir in case of shortages.

Finally, there is a matter which I want to bring to the attention of the Commission for its consideration. I don't know whether it has merit but it seems to me it has. There are three kinds of uses in the Basin, the

first of which is the present or approved uses, which of course are primary. Then there are a series of projects which engineering analysis shows can be developed without utilizing the large holdover storage in main stream reservoirs and still make required compact deliveries at Lee Ferry. The amount of such use has not been definitely determined. It has been variously estimated at from 1,500,000 to 2,500,000 acre feet. Probably around 2,000,000 acre feet of water can be utilized by projects within the states without the use of the basin or channel reservoirs which will provide large holdover storage.

The third block of water is that water which can be used only by virtue of the large main channel reservoirs.

It seems to me that a logical provision would be to allot among the states, as a first step, the block of water which can be used in state developments without the use of main channel reservoirs. That block could probably be used in making as a first or initial allotment of water. Later or perhaps currently, when large channel reservoirs are made available, new projects which are dependent upon such reservoirs could be developed which, it seems to me, would have a special status. They should be obligated to deliver water at Lee Ferry in case the main channel reservoirs cannot supply such water.

I just throw this idea out to you for whatever it may be worth, Mr. Chairman.

The other matters have been mentioned by Colorado and Wyoming and Utah and I don't think I will repeat them here at this time.

COM. STONE: Mr. Chairman, Colorado has on many occasions negotiated on interstate water matters with New Mexico, and this statement of New Mexico indicates their usual careful consideration of very important matters. I particularly feel that New Mexico does have a question relating to that state which deserves very serious consideration, that is the question of the Indian rights, and it is my judgment that matter should be very carefully considered in appraising the equitable rights and interests of all these states. This statement of the Indian Service indicates that New Mexico and to a certain extent, not as great an extent but a considerable extent, Utah has a question there which we cannot avoid, without very thoroughly and with an open mind appraising and considering in arriving at the equitable rights and interests of these states.

MR. WALLACE: Mr. Chairman, on that matter I am interested very much on behalf of the State of Utah. If this statement made by the Indian Service is correct, Arizona would have 22,000 acres, Colorado 20,350 acres, New Mexico 192,000 acres, and Utah 100,220 acres. The question of Indian rights I think is never very clearly defined or settled for all time but the claim on the part of the Indian Affairs Bureau of the United States is very great. Apparently it goes to the fact that the Indians may use the water now or at any future time.

Now some of us think that the Indians are entitled to the water when they can take it out of the natural flow of the stream and that if they go outside the natural flow of the stream for the purpose of reservoiring, then they must submit to the same regulations as the white man does.

Our Indians are pretty well taken care of in Utah so far as water supply is concerned and in that sense our interest isn't so great in the future development as that of New Mexico, but this does very strongly affect both Utah and New Mexico. I think the time has come when there should be a settlement of it even though it requires legislation on the part of Congress. The Indian

should have all the rights to which he is entitled but he should not be permitted to stand in the position where development must cease.

Therefore, Mr. Chairman, I think there should be a committee appointed upon which both Utah and New Mexico are represented to go to Washington and sit down with the Office of Indian Affairs and go to the Secretary of the Interior until finally an arrangement is made under which the Indians get a square deal and progress need not be stopped. We talk about these things, have been talking about them for two or three years, but we haven't taken hold of the nettle and it is time we did. I think it is entirely possible that those who represent the Indians are fair-minded men and I hope this group are fair-minded men, and a settlement should be made upon a permanent basis so we need not go forward with this worry. And certainly you can't agree upon a final development of this river until we know exactly what must be done as to the Indians. What do you think about it? Off the record a moment. (Discussion off the record.)

COM. WILSON: I want to say this: Of course the Legal Advisory Committee that has been appointed has discussed somewhat the Indian problem along with other problems, and whether it is necessary to do what Mr. Wallace said and form another committee--that might have some merit in it. I will say this at the present time--I can't state New Mexico's position as unalterable, it is just my opinion now--that as far as this Indian question is concerned, when it comes to an allocation of the water, New Mexico doesn't make any distinction between the Indians and the whites. They are all residents of New Mexico, they are all land owners in New Mexico, they are within the Basin, and they are entitled to their fair share of whatever apportionment is made.

I do feel of course it is nothing but right and fair and equitable that in making that allocation, that matter be considered as far as the needs of any state are considered when you look at its population as a whole. That has been my thinking up to the present point on this Indian problem, that New Mexico and Utah and any other state that has Indians in it are entitled to have it considered that they do have Indian uses and Indian rights and any allocations made to them should take that into consideration. When you have done that, gentlemen, I think that is all you can do.

I don't want to preclude any further investigations or any further studies by committees or any efforts to have Congress pass laws. Personally I don't believe you can get Congress to pass a law that will determine the ultimate rights of Indians. I think you will find, Commissioner, that is a political question and the Supreme Court can't determine their rights for all time to come. Their rights exist and it goes back to the old idea they are dependent people and they are wards of the Government and the Government as a political organization will have to take care of the Indians.

If it could be settled once and for all it might be a very happy situation but I think you will find after you have gone into it there is nothing a committee can do, there is nothing Congress can do, there is nothing the Supreme Court can do. The Indians are citizens, they are land owners, and if they own land within the Colorado River Basin they have certain rights and I doubt, Mr. Bliss, if those rights can be made any more certain than they are now. The future will have to take care of that. From any allocation made to New Mexico, we will have to take care of Indians and whites the best way we can. That is my idea on it.

MR. WALLACE: Mr. Chairman, we had a great president of the United States once upon a time, his name was Grover Cleveland, and he said, "It is a condition and not a theory that confronts us." In this

particular instance we have a group of citizens of the United States who seem to have a special interest that cannot apparently be determined. Is that the point you make? Is there no way upon which we can agree with the Indian Service or the proper officials in the United States that will say, "The Indians have so much land, so many acres can be irrigated, and therefore the amount of water they require is so much"? Is there anything different in that than dealing with the white man?

Apparently we have all sorts of claims. I have heard they want 20 acres of land developed for each Indian family and then I read in another place that New Mexico wants 155,500 acres of land developed for the Indians. Surely negotiations can be made with the proper authorities and an understanding that is fair to everybody agreed upon as to the Indian lands and the white lands. We can't make an allocation to New Mexico, if you insist on having the Indian lands allocated to New Mexico--we can't agree upon an allocation until we know how much land there is for which we have to furnish water.

The only point I am talking about is this: that certainly there is somewhere in the United States authority that will determine what is a square deal for the Indians and that is the only thing I wish. I would like to determine what that is.

COM. WILSON: Congress will determine that when they are asked for an appropriation to construct Indian works just as Congress determines no matter how much water we have. If we want a project that is entirely whites, Congress will look at it and make the appropriation or refuse to make it and they do the same thing with the Indians. And, Mr. Wallace, if you owned a tract of land in Utah which was granted to you and it had a water right with it, I don't think the Legislature of Utah or Congress would attempt to take that right away from you or determine its limits.

MR. WALLACE: We are not asking the Congress to do that but the thing we are asking is an understanding to be made through which the Indians got a square deal and no more, and that the understanding be of such a nature that we can go ahead and develop this River completely and efficiently. Without such an understanding apparently we can't do it.

COM. WILSON: When Congress and the people of the United States granted the Indians certain reservations they granted those reservations with the knowledge that these rivers and streams were running through them and with the ownership of the land went the right to use water. You take that right away from them, whatever it is.

MR. WALLACE: Let's have an understanding what that right to use the water means. Does it mean you can go on the white man's land and make a reservoir and use more water for the Indians than they could from the natural flow of the stream?

COM. WILSON: The Supreme Court said it is the right to use whatever water is necessary to an enjoyment of the grant of land to them.

MR. WALLACE: Does that mean they can go on white man's land and build reservoirs and double their use?

COM. WILSON: That is a question you can't resolve in advance. What is necessary is a matter that is always open and which the courts are always determining. I don't think we can determine that now.

THE CHAIRMAN: We will recess for five minutes.

(10:45 a.m. Recess.)

(10:55 a.m. Meeting resumed.)

ACTING CHAIRMAN GILES: Gentlemen, Chairman Bashore asked me to call the meeting to order in his absence. He had to be excused for a few minutes. When the recess was taken the question of what procedure if any would be taken with respect to the determination of the claims of the Office of Indian Affairs was under discussion.

MR. WALLACE: I would like to say further in view of the opinion expressed by New Mexico, I see there is nothing further to do at this time but I remark at this time that if negotiations are made and the agreement made on the size of the Indian works and arrangements made for their construction, that would settle the problem.

COM. STONE: Mr. Chairman, I should like to have Mr. Breitenstein make a statement. I suggest that because Colorado has given some study to that question from a legal point of view and that would be the basis for a motion I have in mind unless somebody else makes a motion first. I should like to call on Mr. Breitenstein.

ACTING CHAIRMAN GILES: Very well, Com. Stone.

MR. BREITENSTEIN: Several years ago Judge Stone, who has the ability to see rather distantly in the future, brought up this question of Indian rights and asked me to write an opinion on it. I didn't know anything about Indians then but I tried to learn something about them and did get out an opinion and some of my conclusions are at variance with the opinion stated by representatives of the Office of Indian Affairs as to the rights of Indians. Maybe my conclusions are right and maybe they are wrong.

After that some students up at the University of Colorado became interested in the problem and they prepared an article which was published in the ROCKY MOUNTAIN LAW REVIEW. Most of their conclusions were the same as mine.

MR. WALLACE: Pardon me. That was by whom?

MR. BREITENSTEIN: That was by the University of Colorado Law School in the ROCKY MOUNTAIN LAW REVIEW. While we cannot of course foretell what action Congress may take, we can at least come to our own conclusions as to what the rights of the Indians are and as to what the courts might be reasonably expected to hold those rights to be in the future. I think there is a very serious question that the United States Supreme Court or any other Federal courts will hold that the principles of the Winters decision apply to projects on Indian lands which are not now constructed and in operation; and if I am right in that, it seems to me that the problem here presented is minimized.

In other words, I think there is a definite legal problem here which the Commission is entitled to refer to its Legal Advisory Committee and then to be guided in its future actions by their recommendations. If the other states have not made similar studies on this I heartily recommend that they do it.

COM. STONE: Mr. Chairman, to expedite this matter, I move that the legal question of the rights and interests of the Indians in Colorado River water be referred to the Legal Advisory Committee set up by this

Commission, for study and recommendations to the Commission. That is my motion.

In support of it I refer to the statement made by Mr. Breitenstein and I should like to remark that after studying his brief, it seemed to me that the Commission should be better advised concerning this as a basis in taking any action which it may take in the future. As Mr. Breitenstein says, the other members of the Legal Advisory Committee may not agree with the conclusions he reached in this brief, but it is a question where whatever is available on the subject should be studied by the Legal Advisory Committee. The Commission would be better informed and could act more wisely if we have the recommendations of that Committee before us, so I submit the motion.

COM. WILSON: I second the motion.

MR. WALLACE: Pardon me. Can you reproduce that opinion?

COM. STONE: Copies of this opinion can be reproduced and of course will be made available to the Legal Advisory Committee or we are willing, as far as Colorado is concerned, to make them available to all members of the Committee.

MR. WALLACE: They could be made available from our state. I am not a lawyer but I would very much like to have a copy of it.

COM. STONE: We don't need to worry about the expense of it.

MR. WALLACE: Will you do that and see that we get copies?

COM. STONE: There is no objection to that. The Law Article, I apprehend I will be able to get copies of the ROCKY MOUNTAIN LAW REVIEW. I am not sure I can but I will attempt to.

MR. WALLACE: I would like to personally have copies of those two documents. Utah is very much interested.

COM. CARSON: We would too.

MR. WALLACE: May we have those then, Judge Stone, whatever the expense is, and arrange to send them to us or whatever you care to do?

COM. STONE: Yes, we will.

COM. BISHOP: Mr. Chairman, I would like to ask Judge Stone a question in that connection: Isn't it true, Judge Stone, that regardless of the findings of any committee it will be necessary for us to insert a paragraph in that compact to the effect that "nothing in this compact shall adversely affect the rights of the Indians"?

COM. STONE: I am not ready to answer that question, Mr. Bishop. I think that is a question we will have to determine after further study and consideration of this question. I would go this far and say that unquestionably the rights and interests of the Indians must be considered in the making of this compact. What clause shall be inserted and in what manner it shall be handled is a question where I am not in a position now to make any specific recommendation. That has to be considered by the Commission and these studies may indicate one form of approach or treatment and they may indicate another.

COM. BISHOP: Well perhaps you haven't had the same experience that we have. In all the compacts we have negotiated the Office of Indian Affairs has insisted upon this clause protecting the Indians and we were given to

understand that no compact could be passed by the Congress that didn't have that clause contained in it.

COM. WILSON: May I say, Mr. Bishop, in response to your question of Judge Stone and Judge Stone's reply--I will say that I agree with Judge Stone that that is a matter which this Commission should consider very carefully and whether this Commission can put a clause in the compact we may negotiate in reference to Indian rights attempting to define them or amend them is a matter we must determine. But in answer to your question, Mr. Bishop, it is well to remember that in the original Colorado River Compact from which we derive our 7,500,000 acre feet, the clause was in there.

COM. BISHOP: That is right.

COM. WILSON: Nothing in that compact was to in any way affect the rights of Indians or the obligation of the United States of America to the Indian tribes. Now if we obtain whatever rights we have in the water under such a limitation, why we will have to determine whether we can put that limitation on ourselves or not.

COM. STONE: I agree with Judge Wilson, we can't forget that clause, but it does require as he says further study to ascertain whether we can--

COM. WILSON: If you can work it out I will be glad to help you work it out.

COM. WATSON: Com. Bishop, I should like to ask you how many acres of Indian land in Wyoming there are in the Green River Basin?

COM. BISHOP: We don't have any Indian lands in the Green River Basin, Mr. Watson.

COM. WATSON: Off the record. (Discussion off the record.)

COM. STONE: Mr. Chairman, we are taking up time now discussing questions which are referred to the Legal Advisory Committee, and a motion is before the House. I don't wish to cut off the debate but the question is on whether or not this question shall be referred to the Legal Advisory Committee and not up for discussion of preconceived conclusions.

COM. BISHOP: Question.

THE CHAIRMAN: You have heard the motion. The question has been called for. (Thereupon a vote was taken and the motion of Com. Stone carried unanimously.)

COM. CARSON: Now, Mr. Chairman, off the record. (Discussion off the record.)

MR. WALLACE: If I understand the position of the Commissioner from New Mexico it is this, that he wants the Indians of New Mexico treated as citizens of New Mexico and the allocation to New Mexico to be upon the basis of the requirements of both whites and Indians, regarding them all as citizens of New Mexico, is that right?

COM. WILSON: I think I can answer that yes. There are several implications there; I don't know what you have in mind.

MR. WALLACE: In other words--I can say it in a very few words--

you would like to have the Indians regarded as citizens of New Mexico.

COM. WILSON: You can say, "citizens or land owners."

MR. WALLACE: Or land owners.

COM. WILSON: They are both.

MR. BLISS: May I suggest, Mr. Wallace, that the population to work the Indian lands proposed are not now in New Mexico. They would have to be imported.

MR. PATTERSON: May I offer a thought on this point, Mr. Chairman?

THE CHAIRMAN: What is the point? We voted on a motion. Apparently the discussion is not complete on the motion because we are still discussing the motion, is that right?

COM. STONE: The motion carried.

THE CHAIRMAN: Yes, but I would like to keep to our program if we can. Is this a further discussion of the motion you wish to offer?

MR. PATTERSON: It is a comment in line with Mr. Wallace's discussion and Mr. Bliss's statement.

THE CHAIRMAN: Very well.

MR. PATTERSON: As far as the Engineering Advisory Committee is concerned, we deal with lands that are irrigated lands, that are potentially possible of irrigation, no matter whether it is white men or red men living on them, owning them or using water. We cannot go into questions of who owns the land individually or what their rights may be with respect to their neighbors; but we are dealing with facts as to lands whether it is white land or red land, and facts as to water, rather than whether a white man or a red man uses it. I want it clear we are not as engineers concerned about the relative rights of the white man to the rights of the red man.

THE CHAIRMAN: Does Colorado have another factor to be discussed at this juncture?

COM. STONE: Will you excuse us just a moment and we will take that order up. (Confers.) Mr. Chairman, is your inquiry as to what other factor submitted by Colorado we wish to submit for discussion at this time?

THE CHAIRMAN: Yes, sir.

COM. STONE: And you wish to follow the Colorado list rather than going to any other list. Many of the matters mentioned by the other states are the same as those we have presented. If there is no objection and that is a request of the Chair, Colorado submits for discussion this question or factor contained in the Colorado statement heretofore presented:

What provisions shall be made with respect to the construction, operation and maintenance of facilities in one state for the benefit of another state? Attached to that are other implied questions. I shall not submit those now. But in line with the procedure which we have been following I will ask Mr. Breitenstein to open the discussion on behalf of Colorado.

MR. BREITENSTEIN: It seems to me that this is a pertinent question to

bring up. Yesterday morning in the Basin States Committee they adopted a resolution relative to the Split Mountain project and the Echo Park project. Of course it is hard to divorce this consideration or the consideration of this factor from a consideration of the main stream reservoirs. Nevertheless there is some line of distinction between the two.

It is my concept of the two projects which were mentioned yesterday, that they are valuable not only for the benefit of all states but also that they have a particular value perhaps for the State of Utah. The Echo Park project as I understand it involves a damsite in Colorado which will back up water on both the Green River and the Yampa River in Colorado. The Split Mountain project is one in Utah which will back up water in both Utah and Colorado.

Trying to differentiate any aspect of that problem from a main stream reservoir located further downstream which will operate both to generate power and to regulate the River, it seems to me that consideration has to be given to several items. First, how are the reservoirs to be operated? Who is going to make the determination as to the storage and release of storage of water? Is it going to be necessary to exercise the power of eminent domain under Colorado law to construct those projects? What provision if any is to be made for the tax loss to the county in Colorado in which the projects will be located?

I don't know what the evaporation loss from those reservoirs might be. As I read the Bureau's report they merely give a lump figure for evaporation losses in the Upper Basin without breaking that down as to evaporation losses from any particular reservoir, but there will of necessity be some evaporation losses. Now if you have a reservoir entirely in Colorado and the benefits from that reservoir accruing either to another state or to the joint account of the states, is it fair to charge all those evaporation losses to Colorado? Of course the same problem would be involved in main stream reservoirs downstream. Say one is located in Utah for the benefit of all the states; should all the evaporation losses be charged to Utah?

Another factor comes in there and that is on the power generated by these projects. Is the evaporation loss to be charged in any proportion based upon the uses of power?

Now if I am right in my thought--and I may be wrong--that the two projects mentioned will be of particular value to Utah in connection with its Central Utah project, should the beneficial consumptive use of water in the State of Utah made available, partly at least, as a result of the construction of these projects, be considered in prorating the losses?

In connection with other rivers we have had the problem in Colorado of the construction of facilities in Colorado for use in storing and diverting water for the benefit of another state. We have here in Colorado a statute passed many years ago when the thinking of the Colorado officials was different than it is now which forbade diversions in Colorado for use outside the state. That has in many instances been waived by compact and I think it should be here, but in connection with this Upper Basin situation, we in Colorado are on the other side of the fence in one instance at least. On the Little Snake River we have water users who divert water in Wyoming for use on lands in Colorado. Of course we would like to have their rights so to do recognized just as we feel that in proper instances we should recognize diversions in Colorado for use in the other states.

The problem is one which to some extent is complex but it is one which we feel must be given consideration if we are to avoid future controversy, and I am sure you will find Colorado fair and reasonable in the matter. The only point is we want something definitely decided on that so none of us will have any trouble in the future. If the members of the Commission have recently read the Republican River Compact they will find provisions which were inserted in that compact which take care of some of the matters.

MR. WALLACE: Elaborate on that.

MR. BREITENSTEIN: The best way to do that perhaps is to read it. If I can find it here hurriedly I will read it to you.

COM. STONE: It seems to me it would be a good idea to do it because it does submit the question.

MR. BREITENSTEIN: This doesn't take care of everything I mentioned but it takes care of some of them.

"ARTICLE VI: The right of any person, entity, or lower State to construct, or participate in the future construction and use of any storage reservoir or diversion works in an upper State for the purpose of regulating water herein allocated for beneficial consumptive use in such lower State, shall never be denied by an upper State; provided, that such right is subject to the rights of the upper State.

"ARTICLE VII: Any person, entity, or lower State shall have the right to acquire necessary property rights in an upper State by purchase, or through the exercise of the power of eminent domain, for the construction, operation and maintenance of storage reservoirs, and of appurtenant works, canals and conduits, required for the enjoyment of the privileges granted by Article VI; provided, however, that the grantees of such rights shall pay to the political subdivisions of the State in which such works are located, each and every year during which such rights are enjoyed for such purposes, a sum of money equivalent to the average annual amount of taxes assessed against the lands and improvements during the ten years preceding the use of such lands, in reimbursement for the loss of taxes to said political subdivisions of the State.

"ARTICLE VIII: Should any facility be constructed in an upper State under the provisions of Article VI, such construction and the operation of such facility shall be subject to the laws of such upper State.

"Any repairs to or replacements of such facility shall be made in accordance with the laws of such upper State."

Article IX brings in another point:

"It shall be the duty of the three States to administer this compact through the official in each State who is now or may hereafter be charged with the duty of administering the public water supplies. ..." and so on.

That does not consider of course the method of charging evaporation losses and things like that, but it does take care of many of the other problems which I mentioned.

MR. WALLACE: A question if you please. Granting that the tax on the property that will be used for the reservoir is \$50,000 a year and the construction of the power plant cost \$40,000,000, how much taxes would you pay?

MR. BREITENSTEIN: I apprehend the power plant wouldn't be taxable. Uncle Sam would probably own it and say it was off the tax rolls.

MR. WALLACE: What arrangements would be made to pay tax or would there be an arrangement made to pay taxes on that power plant?

MR. BREITENSTEIN: You can't tax the property of the United States and I have a feeling that--take Echo Park, for example, the dam and power plant would be built by Uncle Sam and would not be taxable.

MR. WALLACE: You know what arrangements were made on Boulder Dam?

MR. BREITENSTEIN: Yes. The scheme evolved here is a little different than the scheme on Boulder Dam. It just seems to me that perhaps there is some merit in this scheme rather than the Boulder Dam scheme. I don't know.

MR. WALLACE: Well, in this particular plan you are simply paying the taxes each year that you would have had on the properties there---

MR. BREITENSTEIN: --during the ten-year period before. That is not as much to our advantage as the Boulder Dam scheme.

MR. WALLACE: No, it isn't.

MR. BREITENSTEIN: Obviously. Of course the thing is also tied up, Mr. Wallace, with some of your reservoirs in Utah and whatever scheme is adopted should be of uniform application throughout the Basin.

MR. WALLACE: Of course looking at it from a state point of view and from the point of view of people who are interested privately in public utilities, the plant should pay taxes.

MR. BREITENSTEIN: We don't want to get into that argument.

MR. WALLACE: That is the point you have got to meet.

MR. BREITENSTEIN: But just take the situation of Moffat County now. I don't know how much taxable property there is which would be covered by the Echo Park reservoir but there will probably be some and there will be some loss to Moffat County in taxes. When we get before the Colorado Legislature, the representatives from Moffat County are going to say, "What about our loss of taxes?" We have got to have some answer for them.

COM. STONE: Even in Colorado in an intrastate matter, the Colorado-Big Thompson project, it was agreed that in that case \$100,000 would be paid to Grand County because of losses of taxes.

MR. WALLACE: Isn't it more than the present loss in taxes?

COM. STONE: This specific agreement was to compensate for the estimated loss in taxes on the lands that would be submerged by reservoirs.

MR. BREITENSTEIN: That was a lump sum deal just to take care of it.

COM. STONE: That was a lump sum deal but I offer that just as a suggestion that there is a principle there that cannot be overlooked.

MR. WALLACE: The question is a simple one I asked you: Isn't

that \$100,000 a larger sum than the County has heretofore received?

COM. STONE: No, it was based on an estimated loss of taxes.

MR. BLISS: Mr. Chairman, I would like to ask Mr. Breitenstein if his discussion included the possible allocation of power revenues which might go toward the repayment of irrigation costs.

MR. BREITENSTEIN: Well of course that is a factor which has to be considered. Take the Echo Park Reservoir. Now what benefits does the State of Colorado get out of the Echo Park Reservoir? I am not talking against it; I am just trying to follow the question. What benefit does the State of Colorado get out of Echo Park Reservoir except from the standpoint of regulation of the stream? We don't know whether we will get any power or not; maybe we will. But how are the evaporation losses to be charged there? From all that I can find out the Echo Park damsite is an admirable site and it is a project which is as desirable as any main stream reservoir. There is nothing against it at all but these questions come up.

If we go up to the Colorado Legislature and say, "Now they are going to have this Echo Park Reservoir and the evaporation loss from that reservoir will be 50,000 acre feet a year." Somebody will say, "Is that charged to the Colorado share?" We have got to have some answer to that.

MR. WALLACE: Theoretically this reservoir when built will--not theoretically but actually will benefit the entire group of the Upper Basin States by making more water immediately available by reason of equation of the flow.

MR. BREITENSTEIN: I am not denying that, Mr. Wallace. I think that is unquestionably right.

MR. ROLLINS: Is there anyone present here, the Bureau or anyone else, who has figures on the amount of land that may be submerged in the two states of Colorado and Wyoming by reason of construction of the Echo Park Reservoir?

COM. STONE: Of course, Mr. Rollins, there no doubt will be numerous reservoirs in any plan of development of the Colorado River where this principle will be involved. There would have to be a general principle.

MR. ROLLINS: I realize that but I am just wondering inasmuch as we had already talked of those two particular projects, the Echo Park and the Split Mountain, if there was sufficient data now available so that we would know about--

COM. STONE: --how the matter worked? You can ask Mr. Larson. No, Mr. Larson isn't here.

MR. UNTERMANN: May I say something on that? I would like to point out with reference to the value of the land inundated in these particular projects, it is principally canyon land and incidentally a good portion is Dinosaur National Monument Government land, just with reference to these two projects. So it is hard to arrive at an existing taxation value of that land for reimbursement.

COM. STONE: If there was no private land within the reservoir site, the principle we are talking about wouldn't apply.

MR. WALLACE: Except the State wants taxes on a project built within

its borders. Even Hoover Dam pays taxes both to Arizona and Nevada.

COM. STONE: That was in lieu of potential taxes.

COM. BISHOP: Mr. Chairman, I agree that that is an important factor and that a clause on the order of the one read by Mr. Breitenstein should be incorporated and it seems to me this Committee that is going to make the tentative draft should give it careful consideration and present it. I can't see that we can settle it here, and until we have time to do that, I suggest we go on to some other subject.

COM. STONE: I would like to inquire of Mr. Bishop what committee do we have to make a tentative draft of a compact? I don't know of such committee. There was referred to the Legal Advisory Committee this administrative clause but I don't know of any one who is going to make a tentative draft. It occurs to me that this is a matter of such importance that there ought to be some discussion--maybe we can't arrive at any conclusions now--of the matters that are involved.

COM. BISHOP: Judge Stone, it would seem to me that the matter of submitting a tentative draft was given to the Legal Advisory Committee considerably more than a year ago and I consider they are still going ahead with it. The main reason the Legal Advisory Committee was set up was to submit a tentative draft.

THE CHAIRMAN: The Chair would like to make an observation at this point. After having listened very carefully to the comments which have been made, it would seem that we shouldn't lose sight of the fact--or at least it so appears a fact to the Chair--that these reservoirs and this development will be made by the United States, that it will be the business of the United States to acquire the right-of-way. Insofar as I know Congress has made no disposition for divesting the ownership of these reservoirs from the United States and what we should consider in the formulation of the compact is the restrictions that the states desire placed on that ownership and possibly operation for some time.

Then it seems further, to your Chairman at least, that there can be no development in the Colorado River Basin until this compact is formulated, developments for consumptive use particularly, and in the opinion of the Chairman no development in the way of using the energy of the water until the most efficient chain of reservoirs has been worked out, so that when you go to the Congress you can say that this reservoir you are now proposing to build is one of a chain of reservoirs, which chain has been determined to be the most efficient grouping possible on the Colorado River.

It also appears to your Chairman that at that time it will have to be stated that the power development from this particular reservoir is for the benefit of all the projects and that the water used is for the benefit of all the projects; and if the compact is eventually worked out and ratified, that the water entering this reservoir or other reservoirs is common property. The lawyers probably will criticize me for the term "common property". I don't know what else to call it. It is "joint and several property" maybe, whatever term you want to use. You know what I mean. And in that way you will have a proposition that's fairly understandable to people and capable of successful operation.

It occurs to your Chairman that the provisions which have been read in the Republican River Compact pertain more particularly to the construction of reservoirs in one state for the benefit of another by other than a Federal agency.

Now as to the question of payments in lieu of taxes, I don't know whether you can incorporate a provision like that in a compact or not. Perhaps you can. I don't know. But if you cannot, that can be specifically set forth in the authorization for the project.

COM. STONE: Mr. Chairman, commenting on some of your remarks I want to say most emphatically that the provisions in the Republican River Compact were not intended nor could they be intended to apply to solely projects constructed by a private agency.

THE CHAIRMAN: No, I understand that, Judge. But my thought was that they were really aimed in that direction.

COM. STONE: No, they were not. I participated in that compact and it was aimed in the other direction. It was anticipated and fully understood that the large projects which were envisioned by the Compact Commissioners would be constructed as projects Federally financed.

THE CHAIRMAN: And Federally owned?

COM. STONE: Well there is a question where there is a lot of law and a lot of disagreement. We don't conceive that the Federal Government owns all of these projects. We do know it is the policy of the Federal Government on projects constructed within a state to benefit lands within a state, to reserve the power; but we likewise envision these irrigation projects as storing water which must be stored in conformity with state law, and that the Federal Government acts as a trustee for the actual water users.

And we must recognize that these projects as we are developing the Colorado River are to be multiple use projects and if we are to be guided by the provision of the Colorado River Compact, domestic and irrigation uses come ahead of power uses. Whether we are guided in this compact by the Colorado River Compact or not in that matter is a question which we no doubt will discuss further. But I don't think we can ever lose sight of the proposition that the highest beneficial use of this water should be in this arid country for the irrigation of lands and to provide domestic supplies.

The Colorado law restricting the diversion of water in Colorado for the use and benefit of water users in another state can't be sidestepped by merely saying these are Government projects.

THE CHAIRMAN: No, Judge. Let me interrupt you just at this point. My suggestion is that in the final wording of this compact you will put the restrictions in on the operation of these reservoirs that the states so desire. Of course it is recognized that the Bureau of Reclamation has always operated under the provisions of the state laws and that domestic use comes first and irrigation use comes before power use. Those are things which you can very properly cover in a compact in my opinion.

COM. STONE: The point I am making is, Mr. Chairman, that if that is what you meant, those are the very restrictions we are talking about which, as Mr. Bishop says, obviously must be included in such a compact. There is involved, however, the question of loss of taxes in one state because of submerging land by a project which will serve another state. Mr. Wallace has called our attention to the fact that a principle was followed in the authorization of the Boulder Dam--I guess it is now the Hoover Dam. There was a payment in lieu of potential taxes based upon what taxes might have accrued to a state if that project had been built by private enterprise. That is another matter which so far as I know has not been followed with respect to any other project.

What we were particularly referring to, however, in our original presentation was largely confined to the taxes which would have been collected over a given period of time by a legal subdivision of the state through the taxing of lands which would be submerged by a project.

THE CHAIRMAN: Judge, it was my suggestion that the pooling of benefits would also go to the pooling of responsibilities and disposition of revenues.

COM. STONE: That might be true as to some of these projects. Unquestionably many of these projects will serve all of the states, and any principle should envision that situation. On the other hand, there probably will be projects built in one state which are largely, almost entirely, for the benefit of another.

THE CHAIRMAN: Yes, I think that is true.

COM. STONE: We have all classes of proposed developments involved in this situation.

THE CHAIRMAN: Any further remarks on this?

MR. RITER: Mr. Chairman, I think Mr. Rollins asked a question which has not been answered. He asked if we had information regarding the areas of the reservoir, referring specifically to the Echo Park Reservoir, located in both states. We have the information but I don't have it with me. We have a good map of that reservoir site and its factual information. It can be determined.

MR. ROLLINS: Are they available?

MR. RITER: I don't have it with me today but I am sure it can be made available.

COM. STONE: May I ask, do you know whether or not with respect to that particular reservoir site, are there any private lands within the site?

MR. RITER: I believe there are.

COM. WATSON: Judge Stone, I have been over most of the site and there are very few private lands. As this gentleman from Vernal said, the area is largely box canyon and the land is valueless. However on the Yampa there are some ranches that might be inundated.

COM. STONE: Of course that is a very fortunate situation when you find a reservoir like that because if there should be any imposition of repayment in lieu of taxes it would be very small in that case.

MR. ROLLINS: Would the Government have any particular interest in the Dinosaur deposits over there?

MR. RITER: Yes.

MR. ROLLINS: Wouldn't they want those protected?

COM. WATSON: The Dinosaur deposits are south of Split Mountain. These reservoirs are north of Split Mountain.

MR. WALLACE: Mr. Chairman, the point I am trying to get at, are

the states going to require revenues from the structures that are going to be built? Is Colorado going to tax the Echo Park for that?

COM. STONE: The only point we have raised, Mr. Wallace, is the loss of taxes which have theretofore been paid on submerged lands. That is as far as our point goes at the present time.

MR. WALLACE: Of course I have raised the additional question as to the possibility of one state taxing these great works for the benefit of the state itself.

THE CHAIRMAN: It is the opinion of the Chairman that that is a matter for the Congress to determine. A state could not tax property of the Federal Government as Mr. Breitenstein has pointed out. But if it is agreeable to all, it would seem that in the authorization of these projects payments can be made in lieu of taxes, and of course you must have a source of revenue for making the payments. It would seem to the Chairman that the payment would have to come out of the power profit.

COM. STONE: I might say on behalf of Colorado that as a general principle, the State would be inclined to recognize that the loss of potential taxes envisioned by Mr. Wallace in his question would be largely compensated by the benefits which would accrue in the development of the River; and if the payment in lieu of such taxes was imposed, that would probably be a matter which would be considered, as the Chairman says, in the authorization of the project. But on a general and broad principle, I don't believe we can grab off benefits of that kind and at the same time retain all of the benefits which this state as well as all other states will obtain through the development of the Colorado River. I don't believe we can be hoggish in that direction.

MR. WALLACE: Is the State of Colorado taxing the power producing parts of the Colorado-Big Thompson project?

COM. STONE: So far as I know it is not. As a matter of fact, as Mr. Breitenstein brought out, there is a question whether we could or not because the Government retained the ownership and control of those power facilities. We wouldn't have the power to do so and I don't believe we ever expect to raise that question because of the great benefits to the State.

THE CHAIRMAN: It is a further observation of the Chairman that this question of payment in lieu of taxes goes farther than the interest of a state. It affects the county governments and seriously affects their operation where they have a large body of land taken out of taxation, and it would seem fair to the Chairman that some arrangement should be made to take care of them because you have a big construction program going on in the county possibly where you are taking out a large body of land and there are children that have to go to school and you are expecting the county to finance that and it becomes a very serious burden. So in the humble opinion of your Chairman it is a very important question and goes farther than the matter of whether a state wants to do it or not.

COM. STONE: Mr. Chairman, when we say the "State", we represent not just the State as a single entity but we represent the legal subdivisions of all the states and the point you bring out is just the question which we pose. We were thinking, as indicated by Mr. Breitenstein's statement, primarily of the legal subdivisions of the states, such as school districts and counties and taxing units within the state, that is the point, and not the point of potential taxes. It is the point of the replacement of the revenues which have heretofore accrued from lands which would be submerged within a legal subdivision such as a county by a reservoir. I think your remarks are very apropos

but I hasten to say that is just what we are thinking about.

THE CHAIRMAN: Off the record. (Discussion off the record.)

MR. RITER: Mr. Chairman, in his discussion yesterday Mr. Larson referred to project pools, and I think Mr. Watson intimated the same thing or if he didn't come out and say it directly he intimated the same thing in his statement this morning regarding the functions of the main stem power projects in producing revenues to finance project developments. You gentlemen remember in an earlier draft of the Bureau's report we even went so far as to suggest the pooling of all projects within the whole Colorado River Basin. That plan was not favorably received by the Basin so it was cut out of the final report, the report that was submitted a year ago.

Now when we start thinking seriously about promotion and building of projects, we are going to look around for sources of revenue because these projects--I am speaking now of the irrigation projects--are very expensive and under the present yardstick of the Reclamation Act they would have to be declared infeasible; but nevertheless they are good projects that develop vast acreages of land, land that is now idle and practically worthless from the standpoint of agricultural production.

Specifically in the case of Echo Park Reservoir, I notice from the map of Colorado there are a number of large projects in Moffat County, which is the same county in which Echo Park Reservoir is located. Perhaps appropriate arrangements could be made so that part of the income, the so-called net income, or power profits if you please from these projects, might be made available to help finance some of the projects in Moffat County.

I realize that is a matter which the Commission will not want to dabble with but it is certainly a problem the states are going to have to wrestle with. In other words, the states can jointly set up your own power pools. I hope this discussion has been contributing to the problem at hand and I am not too far off on a tangent.

MR. WALLACE: There are two items involved, Mr. Chairman. I think it is entirely right that the state, the county, or whatever community is involved, should be compensated for loss of taxes by reason of taking property off the tax rolls. The other question really goes to the matter of competitive sale of power and the question we probably are going to have to meet is: Are these great power producing plants to pay taxes for the benefit of the entire state, the county and so forth; Or are they going to be tax free by reason of the ownership by the United States? Or will something have to be done as in the case of Hoover Dam where compensation is made to the states?

THE CHAIRMAN: Gentlemen--

MR. WALLACE: It will eventually have to be solved relative to the water of the Colorado River. What happens in the case of Coulee or Bonneville I am not advised; are you, Judge Stone?

COM. STONE: Pardon me?

MR. WALLACE: Are you advised as to how the question of taxation for the benefit of the state is resolved in the case of the Bonneville and Grand Coulee projects?

COM. STONE: I am not. I don't know, Mr. Wallace.

MR. RITER: May I answer that off the record?

MR. WALLACE: Yes, you answer it.

(Discussion off the record.)

COM. WATSON: May I add, Mr. Riter, that the Bonneville Power Administration in the last ten years has paid back to the United States Government \$104,000,000 which included 3 percent interest on money advanced for the project.

THE CHAIRMAN: Gentlemen, it is now twelve o'clock and we will recess until one-thirty.

COM. WILSON: I make a motion we adjourn this afternoon some time.

COM. WATSON: I will second the motion if we can work right up to the last minute.

THE CHAIRMAN: The motion is that we adjourn some time this afternoon.

MR. WALLACE: Mr. Chairman, just what can we accomplish by remaining here another day or so?

THE CHAIRMAN: Off the record. (Discussion off the record.)

COM. WILSON: Mr. Chairman, I make a motion we adjourn this afternoon at or before five o'clock and reconvene at Denver on the 17th day of February, 1948, at ten a.m.

THE CHAIRMAN: Do I hear a second to that motion?

COM. WATSON: Second.

(Thereupon a vote was taken and the motion of Com. Wilson carried unanimously.)

THE CHAIRMAN: We will now recess until one-thirty today.

(12:05 p.m. Noon recess.)

(1:30 p.m. Meeting resumed.)

THE CHAIRMAN: The Commission will come to order, please. It will be understood that the Commission will convene in Denver in the Shirley-Savoy Hotel at ten a.m. February 17th, 1948.

Gentlemen, I believe the next matter of business is a consideration of the next item presented by Colorado.

COM. STONE: I assume, Mr. Chairman, you refer to the item which was under discussion when we recessed at noon. To open the discussion this afternoon on that subject and in view of some of the discussion which took place this morning, I wish to again state that in the matter submitted by Colorado under this point, we do not contemplate nor do we believe there is involved under our suggestion the question of potential taxes. And in connection with the matter of payments in lieu of potential taxes of the nature recognized under the Boulder Canyon Project Act and of the nature mentioned by Mr. Wallace

this morning, we do not believe that matter can be covered by an interstate compact.

Furthermore we are of the opinion that if we attempted to cover it it would not be approved by the Congress and further, we doubt the policy of attempting to include such a matter. It is our judgment that when you contemplate making reimbursements in lieu of potential taxes you are getting into a field of project authorization adjustments which can only be handled by the Congress in authorizing a project. Therefore the question submitted by Colorado on the tax matter is pretty well covered by a clause similar to that read into the record from the Republican River Compact this morning. We do not even believe that you could go so far as to provide in a compact that such arrangements for the payment for taxes lost could be accomplished through charging such an item to the operation and maintenance of a project. That is a matter which would have to be adjusted in the authorization of the project.

In that connection I wish to reiterate what this clause in the Republican River Compact provides. This clause I recall in the Republican River Compact negotiations was quite thoroughly argued and was rather carefully written after considering many of the matters that were suggested this morning. I call your attention to the fact that the Republican River Compact merely states that the "grantees of such rights"--that is the easement rights through land which would be covered by a reservoir, the granting of those rights---

". . . that the grantees of such rights shall pay to the political subdivisions of the State in which such works are located, each and every year during which such rights are enjoyed for such purposes, a sum of money equivalent to the average annual amount of taxes assessed against the lands and improvements during the ten years preceding the use of such lands, in reimbursement for the loss of taxes to said political subdivisions of the State."

You will notice that principle is based not upon potential taxes but upon reimbursement for the loss of taxes which had previously been paid to some political subdivision in which the reservoir is located. And we don't at this time submit for tentative approval that ten-year formula but merely submit for your consideration the principle.

Now that provision cannot be fully understood, as is evidenced by the discussion this morning, unless you also consider another provision of the Republican River Compact, and which unquestionably will be included in the Upper Colorado River Basin Compact, which says that:

"Nothing in this compact shall be deemed:

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"(b) To subject any property of the United States, its agencies or instrumentalities, to taxation by any State, or subdivision thereof, nor to create an obligation on the part of the United States, its agencies or instrumentalities, by reason of the acquisition, construction, or operation of any property or works of whatsoever kind, to make any payments to any State or political subdivision thereof, state agency, municipality, or entity whatsoever in reimbursement for the loss of taxes."

Those two sections must be considered together and some similar arrangement unquestionably would be incorporated in an Upper Colorado River Basin Compact.

So that if it should happen that the easement rights for a reservoir were acquired by the United States, then under the law we recognize that the political subdivision would have no right to ask for such reimbursement for loss of taxes; but it would set a principle so that in the authorization of a project and through the action of Congress, arrangements may be made in the authorization of a specific project for such reimbursement for taxes to be provided from operation and maintenance of a project. If we approach it from that point of view and handle it in a manner similar to that, I think we keep within the realm of reason and still protect the rights and interests of certain legal subdivisions within a state, a matter which our Chairman mentioned this morning, and we found in the Republican River Compact that was about the only way you can handle it.

That is a rather long explanation but I had a feeling that what Colorado had in mind was not fully understood. I certainly do not think we can include any provision in this compact for payments in lieu of potential taxes.

THE CHAIRMAN: It would occur to the Chairman also, Judge Stone, that those provisions which you have mentioned would be helpful in seeking authorization of a project in this manner: They would show to the committees of Congress that the states were in agreement on that principle. Are there any further comments? Does the Commission wish to take any formal action in the way of a motion in the disposition of that question or factor?

COM. WATSON: I know so little about it that I would suggest that it be referred to the Legal Advisory Committee.

COM. STONE: On Mr. Watson's suggestion, Mr. Chairman, that they be referred to the Legal Advisory Committee, the whole question that was submitted this morning involves a lot more than just these two questions, the right of exercise of eminent domain and the right for the storage in one state and diversion of water for use in another. That has to break down in a number of subdivisions. And did I understand that your suggestion would go merely to part of the questions raised by Colorado this morning?

COM. WATSON: Right.

COM. STONE: I would like to have Mr. Breitenstein comment upon that as to what part of this point or what questions that arise under this factor should be referred to the Legal Advisory Committee in view of the discussion which has been more or less limited to two or three items of the entire factor.

MR. BREITENSTEIN: Judge Stone, it would occur to me that the proper action to be taken at this time would be to refer to the Legal Advisory Committee consideration of compact provisions relative to the use of eminent domain and the provision for reimbursement of taxes, and provisions relative to diversions, storage and release of storage, and in relation to requirements as to the filing of maps and plans, all in connection with the construction of a project in one state for the benefit of another state or states--those matters should be referred to the Legal Advisory Committee for consideration and report back to the Commission. That leaves one matter which was mentioned this morning for further consideration. That is the question of the charging of evaporation losses and I would like to say something about that if I may after a bit.

COM. STONE: Mr. Chairman, it seems to me we could split this question up as suggested by Mr. Breitenstein and refer the matters which he mentions only at this time, to the Legal Advisory Committee. I would like to call attention to the fact that one of our commissioners is absent.

MR. ROLLINS: I will take his place.

COM. STONE: To get this matter before the Commission and in line with the suggestion of Mr. Watson, I move that the questions which have just previously to this motion been mentioned by Mr. Breitenstein be referred to the Legal Advisory Committee.

COM. WATSON: Second the motion.

THE CHAIRMAN: The motion has been made and seconded. Is there any further discussion of the motion? Are you ready for the question? (Question is called for. Thereupon a vote was taken and Com. Stone's motion carried unanimously.)

MR. BREITENSTEIN: May I mention the other point I had in mind now?

THE CHAIRMAN: Yes.

MR. BREITENSTEIN: That refers to the question of charging reservoir evaporation losses. I have heard the engineers at this meeting talk about making reservoir operation studies. It has been my experience in dealing with engineers, particularly in making such types of studies, that one or more engineers will take some factual data which is agreed upon by all of them and then those engineers will make assumptions and upon the basis of those assumptions will operate the river, and of course unless the assumptions are the same, why the results will be vastly different. I know of one lawsuit in which four sets of engineers, all of them capable, took the same basic factual data and by making different assumptions came out with answers that were so different you couldn't understand they were discussing the same problem.

(Com. Bishop returns to hearing room.)

One of the factors which I am given to understand is considered in such a study, and it seems to me which is one which must be considered here, is the question of reservoir evaporation losses. As I read the Colorado River Report, the Bureau did not attempt to break down reservoir evaporation losses to individual reservoirs in the Upper Basin.

We know from what has been said that it is contemplated that reservoirs be built in several states. Referring again to Echo Park, that is a reservoir which will be in Colorado for the benefit of all the states and particularly for the benefit of Utah. That is a reservoir in one state for the benefit of another state or states and there is going to be some evaporation from it, and we would like to know how you are going to charge that evaporation loss. Is it to be deducted from Colorado's share of the water? That is putting it as bluntly as I can. And how are these engineers in making their studies going to handle assumptions like that? Maybe they can answer that better than I can.

COM. STONE: Off the record. (Discussion off the record.)

COM. WATSON: Mr. Chairman, isn't that a matter Mr. Breitenstein brought up to be referred to the Engineering Advisory Committee?

MR. RITER: Mr. Chairman, the Engineering Advisory Committee has as one of its assignments the study of reservoir operation that must of necessity include determination of reservoir losses. We are not attempting to say to whom those losses are going to be charged. We will gather the factual information on how much we estimate the annual stream depletion is by virtue of the reservoirs and place it in the hands of the Commission to

decide among themselves which if any of the states are to be charged with that evaporation loss. It has been my concept of the problem at present that main stem reservoir losses would be a several and joint loss to be shared by all of the states and that such losses would not be allocated to any particular state.

MR. BREITENSTEIN: Off the record. (Discussion off the record.)

MR. RITER: Mother Nature is going to evaporate water from the reservoir surface just the same as Mother Nature evaporates water from Lake Mead in the Lower Basin. I believe most people who have discussed the problem, however, do recognize that these main stem reservoir losses are part of the 7,500,000 acre feet allocated to each basin.

COM. STONE: Mr. Riter, did I understand your comments at this time to be confined to main stem reservoirs that are clearly for the benefit of all the states, or do your remarks apply to all reservoirs?

MR. RITER: No, my remarks are confined to reservoirs which are for the benefit of all states. Judge Stone, the engineers can give you factual information on what the reservoir losses are estimated to be for any particular reservoir but as I see it it is a problem for the Commission to decide among themselves, considering the facts as to the use of that particular reservoir, whether or not such reservoir losses should be allocated wholly or in part to one or more states, or whether they should be considered a joint account for all states.

MR. ROLLINS: Off the record. (Discussion off the record.)

MR. RITER: It is our intention where legal problems are involved not to attempt to make assumptions on them without consulting the lawyers. Now I can see in the case of Echo Park Reservoir how that might conceivably be a particular reservoir rather than a general reservoir although my thinking in the past has been that that is a general reservoir for the benefit of all states. I more or less size the situation up in this manner, speaking in terms of figures--we have 7,500,000 acre feet of stream depletion available in the Upper Basin. Before attempting to divide the 7,500,000 acre feet I would be inclined to subtract therefrom a figure, say 800,000 acre feet, to represent main stem evaporation losses. Then what is left, 6,700,000 acre feet in the example used, would be the water that would be divided among the states. That is my thinking on it, Jean.

MR. BREITENSTEIN: I have considered that myself. It seems to me that there may be a lot of merit in that on reservoirs of general use to all the states. I don't know enough about Echo Park to know whether that is entirely general use or whether there is some particular use for the benefit of the State of Utah. I don't know enough about that. While your formula might be fair on a general reservoir we doubt if it is on a reservoir that has a particular and peculiar benefit to one state.

MR. RITER: Mr. Breitenstein, with respect to Echo Park and from the facts in the case, which have not been clearly defined as to how it will be used, it appears as though there might be some justification for allocation of part of the evaporation losses of Echo Park to a particular project. That is something that will have to be studied out. I don't think we are prepared to say today. Mr. Larson has gone home. I do know, however, that Echo Park Reservoir is being considered as one of the units of the Central Utah project.

MR. BREITENSTEIN: That is the reason I said what I did but I don't know.

MR. RITER: As I mentioned this morning, Echo Park might also be considered as a holdover reservoir for the benefit of the whole basin; and furthermore it might also be considered as a revenue producer for the benefit of some of the Colorado projects in the Yampa River Basin.

MR. BREITENSTEIN: I grant all that. I am not saying anything against Echo Park. I don't want it to be considered that way. But my thought is, to be specific about the thing, if we go up to the Colorado Legislature to try to get this compact ratified and they see there is a reservoir going to be built in Moffat County and there will be 50,000 acre feet a year evaporation loss from that reservoir, they will ask: "Does that come off the Colorado share?" What are we going to say in answer to the question? That is just being practical about the thing.

MR. RITER: Today you can't answer the question but I do think by the time the compact is negotiated you will be in a position to answer it. Unless my thinking is changed between now and the time the compact is negotiated, you can answer it this way: Echo Park Reservoir operates for the benefit of all states so the evaporation loss from Echo Park Reservoir will not be charged against any particular state, it will not be charged against Colorado. However it is deducted from the 7,500,000 acre feet before Colorado has her share of the allocation defined.

MR. BREITENSTEIN: Let me present two other reservoirs and each of them are entirely in Colorado and already built, Vallecito and Taylor Park.

MR. RITER: I believe in those cases you will have to admit they are entirely for the benefit of lands in Colorado.

COM. STONE: That is the situation we are discussing.

MR. BREITENSTEIN: All right, they are entirely for Colorado lands so we are stuck for that. We have got to absorb that.

MR. RITER: Yes.

MR. BREITENSTEIN: Now if you have one for the benefit of lands in one state and it is located in another state. I am talking about benefits to particular lands in another state.

THE CHAIRMAN: Without any power development?

MR. BREITENSTEIN: Whether there is any power development or not.

THE CHAIRMAN: Your Chairman feels there might be a difference.

MR. BREITENSTEIN: You are bringing in another factor, Com. Bashore. When you consider power development you may have that power used 100 percent in one state or you might have it used 20 percent in each of the states. If the allocation of power to any particular state is a factor, then you have another variable brought in to complicate the allocation of such losses as evaporation.

COM. WATSON: Wouldn't the burden be in proportion to the benefit received?

MR. BREITENSTEIN: It seems to me that is a pretty fair way to do it, Com. Watson, but your benefit received is both in the irrigation of lands and in the use of hydroelectric power, and also perhaps in domestic uses too.

MR. MERRIELL: It isn't an impossible task for the Engineering Advisory Committee to work those things out.

MR. BREITENSTEIN: All right, let's let the Commission tell the Engineering Advisory Committee to work them out.

MR. RITER: We have already been told to work them out. I am sorry we didn't have the answer at this meeting but we will at some future meeting.

COM. STONE: I want to point this out: It may be the Engineering Advisory Committee will come up with some answers. What we are discussing now isn't an engineering question; it is a question of a principle which might be developed and discussed by this Commission for the guidance of the Engineering Committee in making their findings. It looks to me as if this is not entirely an engineering question unless Mr. Riter and his Committee want to consider the policy question and make recommendations on that as well as questions of engineering.

MR. WALLACE: May I say a word, Mr. Chairman? It seems to me the subject you are discussing goes right back to the question of whether the states are going to work together or going alone. Fortunately we in Utah are in a position so that we don't have to have Echo Park project. We have other projects there that would serve Utah and be entirely in the State of Utah. It seems to me you are going into the major proposition of whether the states are going alone or as a unit.

COM. WATSON: Mr. Breitenstein, wouldn't this be a breakdown of the statement I made that the assessment would be in proportion to the benefits received: If a certain portion went to power and say we used that power--say we used all the power from Echo Park; then we would pay that amount of the burden assessed against electric power. A certain portion would be used for irrigation and for domestic use. Colorado may get some of the power. Certainly Colorado would participate somewhat in the storage.

MR. BREITENSTEIN: I don't disagree with you at all, Com. Watson. I think the proposition that you state as a general principle is absolutely fair, but it is something I say we can't pass over. We have got to consider it. It isn't us fighting anybody else because it is a problem which involves all of us and if we settle it now we aren't going to have a lawsuit over it twenty years from now.

COM. STONE: Mr. Chairman, I am very much impressed by the suggestion made by the Commissioner of Utah. That is an example of a solution of the question which we are suggesting under this point.

COM. WATSON: Judge Stone, wouldn't that same principle be associated with any other reservoir on the river? Let's assume now there is a reservoir wholly in the State of Utah. Nature has provided that site through the work of the Colorado River in widening out the canyon and leaving it narrow at a certain point. This is the result of the process of erosion over a long period of time. Now, wouldn't that fact--and Utah contends this--that that site has been provided along the main stem of the River by the State of Utah due to the forces of Nature, be a factor in which Utah would receive benefits just the same as if it were Colorado that produced 1,000 acre feet of water from the snow of the mountains that ran through this channel? It would be rather difficult to evaluate these two factors but at the same time wouldn't the fact that the reservoir existed entirely in the State of Utah or entirely in the State of Colorado be a contribution for which the state should be credited?

MR. BREITENSTEIN: I don't deny that at all. You have a natural

resource; we have a natural resource; and by the joint use of them we are both benefited.

COM. WATSON: That is right, it would work both ways.

MR. BREITENSTEIN: Sure it does.

MR. RITER: Mr. Chairman, Judge Stone made a remark a while ago about the engineers dabbling in policies. Well, we are human beings; we can't help but have ideas. Our basic job, however, is to find facts and present them to this Commission, then the Commission will make the policies. I assume however that as human beings and as citizens of this State of Colorado or the United States, we are at liberty to express ourselves and if we have any suggestions, the Commission will either throw them out or accept them---

THE CHAIRMAN: Just a moment off the record. (Discussion off the record.)

COM. STONE: Mr. Chairman, I didn't want Mr. Riter to feel that I was implying the engineers should not make recommendations as to policies as they may see fit. It just occurred to me though that if we could arrive at some general conclusion at least tentatively on this question it might be some help to the engineers in completing their data with respect to evaporation losses. We know now that this question of reservoir evaporation losses was not adequately covered in the Colorado River Compact.

If we are to profit by the experience of the past, and in order to avoid trouble in the future, we ought to cover and in my opinion must cover in some general way in this compact, provisions relating to the question of evaporation losses and in this we must work as states recognizing our common interest. We can't dispose of the question though by saying we are all interested and we have a common interest and we must work together. I think by fair and equitable provisions on the evaporation loss question we will do more to insure working together than if we leave it for possible controversy in the future.

I want to say again that I am much impressed with the general principle which has been stated by Mr. Watson here.

COM. WATSON: Couldn't then, Judge, the Legal Advisory Committee draft something that contained the principle of the benefits and the burdens being proportionate?

MR. BREITENSTEIN: Why not let the lawyers try to work on that? Make a motion referring it to them.

COM. WATSON: I will make a motion that we refer this problem to the Legal Advisory Committee.

COM. STONE: The motion must be more specific than that.

THE CHAIRMAN: Gentlemen, just a minute. It is at least the hope of the Chairman that one of these committees will be able in the near future to present something in the way of information which apparently this Commission needs to determine whether or not the percentage basis which you have tentatively agreed upon should be considered the basis of allocation of benefits, and as I remember also of responsibilities, cannot be carried down into the matter of these general purpose reservoirs to include the item of evaporation and any other items of loss or gain.

MR. ROLLINS: Mr. Chairman, isn't it true that while specifically Utah may benefit more materially from the use of power in the Echo Park Reservoir, still all of the states will benefit from the revenues derived from the production of power. It seems to me it is going to be very difficult to ascertain definitely just what each state's interest in the power revenues will be.

THE CHAIRMAN: Well, of course, Mr. Rollins, I hope we don't get mixed up in our thinking that this compact might make an allocation of power to a certain state. I don't believe any of you are thinking of that. If so, I think it would be a hopeless task. That would come later after your compact is negotiated. But the principle of how the states are going to share in all these benefits, if it did not include evaporation on the general purpose reservoirs, I think should be cleared up.

MR. ROLLINS: When Mr. Watson referred to the benefits that Utah would derive or any state would derive, did he have in mind only the agricultural development or did you also have the power possibilities in mind?

COM. WATSON: I had in mind all benefits tied to that reservoir whether it was storage, irrigation, power or whatever those benefits might be.

MR. ROLLINS: That is what I thought. If that is true, Mr. Chairman, then the question of power cannot be eliminated from this discussion it seems to me.

THE CHAIRMAN: As I understand the situation, Mr. Watson, isn't it this that you are setting forth before the Commission: That in the development of these resources and bringing them together, Utah is counting on recognition of the fact that she has available reservoir sites. You are not getting into the question of whether you should have more or less power or more or less land irrigated. It is one of the important contributions to the whole pool, that you have the sites in the State of Utah, and I don't believe there was any attempt to confuse that.

COM. WILSON: It is a question of somebody formulating a motion. I think everybody is in agreement on the principle. Mr. Carson and Mr. Breitenstein are formulating a motion.

COM. STONE: We are formulating a motion in an effort to outline the principle which was mentioned by Mr. Watson which will get it down to something specific.

THE CHAIRMAN: You have a motion to propose, Mr. Watson?

COM. WATSON: I move that the Legal Advisory Committee be requested to draft a provision to effectuate the principle that losses of water incidental to reservoir operations be proportioned between the states upon the basis of the benefits received from such reservoir operations.

COM. STONE: Second the motion.

THE CHAIRMAN: Is there discussion of the motion?

MR. RITER: I would like to raise a question if you don't mind. Maybe we should defer it until you get something specific before the Commission, but I would like to refer to the fact that if you are going to take power as one of your benefits and it is understood by everybody that is what one of the benefits is and that goes into this compact and this compact comes before the Congress, you are going to open up the old fight again with California because California will say it is going to be a bad precedent to apportioning the

evaporation losses at Lake Mead, which has not yet been done.

COM. WATSON: Isn't it possible that Mr. Carson may have an idea on that? Will you talk to that point, Mr. Carson?

COM. CARSON: Mr. Chairman, it seems to me that the concept of an evaporation loss being due to a power operation and therefore the evaporation loss being charged to power operation as distinguished from any state is a misconception in this, that power as such has no right to consume water. If any water is lost by evaporation from a reservoir that should be used solely for power production, the effect of it is to cut down the quantity of water that can be apportioned among these states.

I think for the purpose of this proposal here it would work out fairly to say, subject to the study by this Committee, that the evaporation losses on any reservoir should be borne ratably by the persons who are benefited from the storage in the reservoir which makes the evaporation loss possible, either between states or between users in one state and users in another state. And I think that would work out fairly and equally concerning a reservoir in an upstream state for the benefit of a lower state and also a reservoir in a lower state for the benefit of an upstream state if some matter could be worked out as Mr. Ollie Larson said yesterday concerning debits and credits in the bank in the lower reservoir. That would be my idea of how it could be worked out.

I don't think it aids us to say we charge so much to the power because power has no separate apportioned right to use water and whatever evaporation it causes reduces the amount of water that can be apportioned to the states.

THE CHAIRMAN: It is the opinion of the Chairman that Mr. Riter's suggestions are pertinent but as the matter is referred to the committee of lawyers they will no doubt give that matter consideration, and if we attempt to go much further on it here we will be attempting to do the work that has been assigned to the committee.

COM. CARSON: I would just like to say one other thing in connection with Mr. Riter's reference to Lake Mead. As Mr. Riter states, we for Arizona agree that we who benefit from the storage in Lake Mead must bear the evaporation loss ratably in proportion to the benefit we receive from that storage, and that California denies. But I believe that equity would require that persons who do benefit by that storage share ratably any evaporation loss caused by that storage; and also that any storage of water of the stream either in an on-stream reservoir or in an off-stream reservoir is in equity considered as diverted from that stream, any interference with its natural flow.

(Discussion off the record.)

COM. WATSON: Mr. Chairman, may I for the benefit of the record state that in considering the Glen Canyon Reservoir we ought to figure whether or not the Rainbow National Monument would be submerged because we certainly wouldn't want to lose that arch for the benefit of California.

COM. STONE: I move the question, Mr. Chairman.

(Thereupon a vote was taken and Com. Watson's motion carried unanimously.)

THE CHAIRMAN: We will now proceed to the next item.

COM. STONE: Mr. Chairman, do you wish and is it agreeable to the Commission for Colorado to submit the next factor or point?

THE CHAIRMAN: That was the intention of the Chairman that Colorado would continue with its presentation of the various points on its agenda.

COM. STONE: Colorado submits this factor or question for the consideration of the Commission: Shall beneficial uses, whether consumptive or not, be given any order of preference? And in line with our procedure of the past I will ask Mr. Breitenstein to open the discussion.

MR. BREITENSTEIN: Well, by "order of preference" we mean, shall a particular type of use, that is domestic, irrigation, industrial, hydroelectric power generation, navigation, or many others, be given any preference? Shall there be a list of preferences? Here in our State under our Constitution and statutes, we have such a list of preferences and I assume the other states do. As you all know, under the Colorado River Compact, domestic and irrigation are given the first preference. Now that subordinates the use of water for the generation of hydroelectric power to domestic and irrigation uses.

Is it desirable or necessary to have such a preference list in an Upper Basin Compact? It probably can be argued with considerable force that since the Colorado River Compact does establish a list of preferences for the entire Basin, it is necessary in an Upper Basin compact to include a provision of the same type as that in the Lower Basin Compact.

You also recall the provision of the Colorado River Compact relative to navigation and I suppose you all know that there is a decision of the United States Supreme Court declaring certain sections of the Green and Colorado Rivers in Utah navigable. So is it necessary to place in the Upper Basin compact any reference to navigation?

While the problem perhaps sounds rather simple to state, I apprehend that it carries with it more source of future trouble than anything else. In all probability in the future after your main stem reservoirs are constructed and in operation, you are going to have a competition, unless by some means it is avoided, between those who would release large amounts of water for the generation of power and those who would hold the maximum amount of water back so it will be available to meet delivery obligations at Lee Ferry.

I think that states the principal factors which are involved in the question presented by Judge Stone.

COM. WATSON: What is Judge Stone's thinking on the matter?

COM. STONE: I want to remain open-minded and I am always impressed to find that my thinking is not always straight when I listen to some of the other Commissioners. But for the moment and to be more or less in the position of the Devil's Advocate, I am persuaded that these states as signatories to the Colorado River Compact are bound by that preference which is specified by the Colorado River Compact. Unless I can be shown to the contrary I believe that preference will have to be recognized by the Upper Colorado River Basin Compact.

I do not see how these states can become signatories to one compact expressing an order of preference and vary that preference with respect to a portion of the Basin, that portion which is the concern of these states. I think if we did there might be serious objection urged in Congress against any compact which we might submit for the approval of Congress. I don't believe it

is good policy or wise to deviate from that principle which we at one time agreed to so far as the whole Basin is concerned.

I also am and for years have been an adherent to that principle. It is my concept that the West has been adherent to that principle. We in the West in the arid section must rely on water for our agricultural development and for our domestic uses--everyone relies on it for domestic uses. We have great supplies as pointed out by Mr. Watson this morning of fuels for the production of electric energy. In my opinion we can never satisfy these states nor support the principle which we have always followed in these states if we do not adhere firmly to the principle of domestic and irrigation uses coming first.

I believe it is not only a principle wisely covered by the Colorado River Compact but it is a principle which has been adhered to in the West, and I refer particularly to Section 1 of the 1944 Flood Control Act where we imposed that principle upon states east of the 98th Meridian and specified that any uses of water arising west of the 98th Meridian for navigation and in the Arkansas River for power production, shall not adversely affect the use of water west of the 98th Meridian for beneficial consumptive use purposes including domestic, irrigation, mining, and other beneficial consumptive uses.

I strongly urge for the moment, subject to changing my mind if I can see something to the contrary, that we maintain that principle by recognizing the same principle which is adopted in the Colorado River Compact in an Upper Colorado River Basin Compact.

COM. BISHOP: Mr. Chairman, we agree with that principle fully. Under our laws irrigation and domestic use is superior to power. And we hope this compact will be so worded that if a system of power dams is built on the River, it will operate so that as agricultural use becomes more until there isn't sufficient water to operate the power plants, they will be abandoned if you please as the water becomes needed for agricultural purposes. As I see it, the power projects will be built principally as far as we are concerned to take care, of course, of the power needs in the Basin and would pay for the irrigation benefits. After 40 or 60 years or a long time in the future, those benefits will have been paid and the power projects can well be abandoned to be replaced by electric energy from other sources.

COM. WATSON: I just wish to ask Mr. Bishop if he didn't think this string of reservoirs which will be selected as the most efficient in order to deliver the obligation at Lee Ferry, wouldn't that very operation entail the development of electric energy? Would there be any necessity for an abandonment in that case?

COM. BISHOP: I would hope not, Mr. Watson. But the point I was trying to bring out was that I wouldn't want to see the power hold up agricultural development even though it had to be abandoned. I think the engineers in making the plans should try to have it so planned that it isn't necessary to abandon the power.

COM. STONE: Mr. Chairman, I should like to point out this one other matter which occurs to me: We can't very well enforce this conception of preferential use for agriculture and domestic uses as supported by the Colorado River Compact if we are going to vary that rule in the Upper Basin.

MR. ROLLINS: Don't you think, Judge Stone, that the very fact that Congress has gone on record both in the Flood Control Act and the Navigation

Act, they would scrutinize very carefully any future laws or compacts which would in any way modify or abrogate that declaration of policy in Congress?

COM. STONE: I think so, Mr. Rollins. And so far as I am personally concerned I have taken such a strong position on it I would have difficulty supporting an Upper Colorado River Basin Compact that deviated from that rule.

COM. WILSON: Mr. Chairman, just to get in the record I would like to say I am entirely in agreement with everything Judge Stone said speaking on this motion. I think we can't do anything except to follow the language of the Colorado River Compact in reference to preferential uses. Now the motion read by Mr. Breitenstein, I don't know whether it mentioned navigation or not; did it?

COM. STONE: He didn't make the motion, Fred, but he did in his presentation of the question mention navigation and referred to the fact that the court had held that certain sections of the Green River and I believe the Colorado River had been held to be navigable.

COM. WILSON: Suppose we also incorporate in the compact language that is intended to make these uses you have mentioned superior to navigation? I would like to ask Mr. Breitenstein and the other gentlemen here if even assuming the Congress approved the compact, would that take precedence over the regulation of commerce under the Constitution of the United States?

MR. BREITENSTEIN: The Constitution of the United States says Congress has power to regulate commerce. If in the regulation of commerce Congress wishes to make navigation subservient to something else, it certainly has the power to do it.

COM. STONE: Mr. Wilson, we had a lot of experience on that question in connection with the Republican River Compact. That very question which you raise was presented. In the consideration of that compact we had the advice as legal adviser to the Federal Representative of Mr. Stinson, formerly of the Chief Counsel's office of the Bureau of Reclamation.

In the first Colorado River Compact the states attempted to make navigation subservient to these beneficial consumptive uses. That question raised a question in Congress when the Republican River Compact was presented to Congress. The action of the Congress, however, in approving the compact was vetoed by the President.

We recognized then that the states in making a compact had no power to compact on that particular question due to the fact that the Government of the United States is not a party to a compact, and the approval of a compact by the Congress does not make the United States a party nor make it a party to the extent that by approval it agrees to provisions in the compact.

Now we circumscribed that situation in the Republican River Compact by a special provision which stated that the states ratified the compact subject to concurrent legislation by the Congress which would make navigation subservient to the beneficial consumptive uses of water.

Now apparently when the Colorado River Compact was written that question was very much in the minds of those who wrote the compact because it says:

"Inasmuch as the Colorado River has ceased to be navigable for commerce and the reservation of its waters for navigation would seriously limit the developments of its basin, the use of its waters for purposes of

navigation shall be subservient to the uses of such waters for domestic, agricultural, and power purposes."

Then there is included this most significant statement--

COM. WILSON: That is the Colorado River Compact?

COM. STONE: Yes. It says:

"If the Congress shall not consent to this paragraph, the other provisions of this compact shall nevertheless remain binding."

Undoubtedly that language implies that the Commissioners had serious question as to whether they could make effective that provision and here in later years we have gone into that matter further and came to the definite conclusion that the Compact Commissioners did not have the power to make such a provision effective unless in making the compact the states say they ratify only if the Congress will pass concurrent legislation on that subject.

Someone might say that the '44 Flood Control Act may handle this situation. It does not because the entire Colorado River is west of the 98th Meridian, so we gain no help from that legislation. That legislation dealt with this same question and if we were a river covered by the 1944 Flood Control Act we would be in good position, but unfortunately we were not.

COM. WILSON: In other words, you think it would take not only the consent of Congress to this compact but specific legislation?

COM. STONE: My answer to that is "yes".

COM. WATSON: Mr. Chairman, I make this observation just to show that there will be some discordance thrown into this argument: The Colorado River Compact says, "Inasmuch as the Colorado River has ceased to be navigable for commerce. . ." In the operation of this River we are going to have a great string of reservoirs. We are going to do all we can in developing this River to make it navigable.

The River was considered navigable in certain sections by the Supreme Court when it held that the states owned the beds of streams because the river at that point was navigable. That was due to the fact that certain oil leases were in question and the question arose as to whether or not the land on the bed of the river belonged to the state or the nation. If it belonged to the state you went to the Land Board for the lease. If it belonged to the nation you went to the Land Office for the lease.

After all that has been done we turn around and make this river a navigable river. It doesn't make any difference what the assertion of the Compact is. The Compact is acting on the river as it was. As the river will be, it will be a navigable stream and there will be all kinds of sailing craft and fishing craft and boats navigating the river from one end to the other, and it seems to me the act of man is going to make it a navigable river regardless of the Colorado River Compact.

COM. STONE: Do you make the river navigable or do you create new navigation on bodies of water?

COM. WATSON: A lake is merely a wide place in the river.

COM. WILSON: Mr. Watson, don't you think the answer to that is

this: The declaration in the Colorado River Compact that the Colorado River had ceased to be navigable didn't have any effect one way or the other as to its navigability or non-navigability. It was a statement made but it didn't affect the question of whether it is or not.

COM. STONE: I think Judge Wilson is entirely right about it.

COM. WILSON: No matter what we say, unless the Congress exercises its powers and waives its right to treat it as a navigable stream there is nothing we can do.

COM. CARSON: That is the Economy Light and Power case on the Des Plaines River in Illinois.

COM. WATSON: Off the record. (Discussion off the record.)

MR. BREITENSTEIN: The point is that Congress has the power to regulate commerce between the states and if in the regulation of commerce between the states it says a certain river is not navigable, why it isn't under its control.

COM. CARSON: Well, Mr. Chairman, I don't think that we in a compact could bind the Congress but I don't think this is necessarily limited to the control of Congress as to the navigability of rivers. But they do have the control under the Constitution and the Supreme Court has said in that Economy Light and Power case that a river that isn't navigable in effect continues to be navigable until Congress declares otherwise although there hasn't been a boat on it in a hundred years or the memory of any living man. So that continues to be the law of the case.

But even though Congress should still claim that the Colorado River is navigable I believe a clause similar to that which was in the Colorado River Compact originally does have some effect so far as the interests of states in navigable rivers is concerned. I think it would be well to have such a clause following that of the Colorado River Compact in any compact that would be here written.

COM. STONE: Mr. Carson, you mean that we should have that loose clause? Under the Colorado River Compact you certainly didn't make navigation subservient.

COM. CARSON: You did so far as the states are concerned.

MR. BREITENSTEIN: In the Republican River Compact we did as far as Congress is concerned.

COM. STONE: You didn't make navigation subservient in the Colorado River Compact because Congress by merely approving the compact did not accede to that and navigation is a matter for Congress and not a matter for the states.

COM. CARSON: I know, but so far as the states' interest in navigation or resulting from Congress declaring a stream to be navigable, we did subserve all of the interests of the states to this priority system, which I think is as far as we can go here.

COM. STONE: May I submit, Mr. Carson, we can go farther and I think we ought to give serious consideration as to whether we should go farther by adopting the approach which was made in the Republican River Compact because there it became very effective.

COM. CARSON: My present thought is no, that we should not go beyond

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this but I am open to discussion or argument on it. The reason is that here is a compact that is made by all these states, seven states; two of them are not here. This compact has got to be based upon the Colorado River Compact, so I think as clearly as we could we should follow the definitions and the language of the Colorado River Compact to avoid giving to the other states that are not here represented any possible claim that we had by this Upper Basin Compact put ourselves in a position to violate the main Colorado River Compact or raised any question as to its validity. With that kind of a clause in there there would be nothing to prevent our undertaking to join together to get an Act of Congress declaring it ceased to be navigable but I think it should be outside and apart from the Upper Basin Compact.

MR. ROLLINS: Mr. Chairman, if the Colorado River had been a navigable river before the ratification of the Colorado River Compact and before the building of the Boulder Dam, certainly when the Boulder Dam was built it ceased to be a navigable river in its entirety. How are you going to get around it?

MR. BREITENSTEIN: Your law isn't good on that, Mr. Rollins, unfortunately.

COM. CARSON: It is still a navigable river under the decision of the Supreme Court of the United States in the action brought by Arizona challenging the constitutionality of the Boulder Canyon Project Act.

COM. STONE: I am inclined to think that Mr. Carson has something there from a practical effect leaving out all legal considerations. I don't think we have got very much to worry about because there will be dams across the river and such navigation as occurs will be that navigation described by Mr. Watson. It will be navigation on man-made lakes and reservoirs and won't be continuous navigation up and down the stream, and if we followed the provision of the Colorado River Compact we would be in keeping with the present compact but we would be accomplishing one very definite thing and that is except for navigation the use of the water---

"Subject to the provisions of this compact, water of the Colorado River system may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes."

That is the thing we are getting at and the navigation business to my mind so far as this situation is concerned is largely academic.

COM. CARSON: There is another phase of that, Mr. Chairman, that we should be bearing in mind as to whether we should consider any resolution of Congress declaring that it has ceased to be navigable.

THE CHAIRMAN: Gentlemen, we will recess for five minutes.

(3:55 p.m. Recess.)

(4:00 p.m. Meeting resumed.)

THE CHAIRMAN: Gentlemen, let's get to work again. We are going to get through now in about half an hour. The meeting will come to order. Judge Stone, do you wish to make any announcement in regard to the meeting of the Colorado River Basin States Committee in connection with the next meeting of this Commission?

COM. STONE: Yes, I wish to announce in compliance with the action taken at Salt Lake City on November 20th and 21st, I shall expect to call a meeting of the Basin States Committee to convene here at the same time that the Compact Commission meets on February 17th so that we can fit in a meeting of that committee at the time all of these men are here.

THE CHAIRMAN: Off the record. (Discussion off the record.) Then in view of the fact, Com. Stone, that you expect to call a Colorado River Basin States Committee meeting, beginning with February 17, 1948 the Chairman of the Upper Colorado River Basin Compact Commission will arrange at that time for an intermission to fit in with the work of the Colorado River Basin States Committee.

COM. STONE: Thank you, Mr. Chairman.

THE CHAIRMAN: We shall now resume consideration of the matter before the Commission.

COM. CARSON: Mr. Chairman, I was just about to make another observation on this question of navigation, that I think it should be carefully considered before any attempt would be made to get any resolution through Congress abandoning the Colorado River as a navigable stream, its possible effect on future appropriations for dams and improvements on the river. I want everybody to be thinking about that before we meet again.

COM. STONE: Mr. Chairman, I would like to prepare a motion on that subject to submit to close this matter and in preparing it I want to say that Colorado believes that this navigation matter is academic and all that we are interested in in submitting this point is the priority of beneficial consumptive uses and we believe largely we are bound by the present Colorado River Compact. There is some reason too to leave the subject alone because of authorization questions.

Mr. Chairman, I make this motion, that this Commission tentatively agree that the Upper Colorado River Basin Compact contain provisions relative to the preferential use of water in substantially the same form as now contained in the Colorado River Compact and that the Legal Advisory Committee be requested to draft the necessary language to effectuate this matter.

COM. WILSON: Second the motion.

THE CHAIRMAN: The motion is made and seconded. It is now open for discussion.

COM. WATSON: Question.

THE CHAIRMAN: Question has been called for. (Thereupon a vote was taken and Com. Stone's motion carried unanimously.)

THE CHAIRMAN: Gentlemen, the Chairman is rather pleased with the work which you have done at this meeting here in Denver. I think we are making progress. This group certainly has it in it to handle this question, and you have some of the best brains in the country from a legal, engineering, and common sense standpoint.

Now there have been many questions submitted here by the states for consideration. You have all done a good job on that, and it is the hope of the Chairman that by the time we have the next meeting you will do some thinking on these questions so that we can begin to gather up the loose ends and bring this thing together.

Is there a motion for adjournment?

COM. WATSON: Move we adjourn.

COM. BISHOP: Second the motion.

THE CHAIRMAN: We now stand adjourned until February 17, 1948.

(4:15 p.m., Thursday, December 4, 1947, Commission adjourned
until 10:00 a.m., Tuesday, February 17, 1948, at Denver, Colorado.)

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