

MINUTES OF THE

17th MEETING

COLORADO RIVER COMMISSION

The seventeenth meeting of the Colorado River Commission was held at Bishop's Lodge, Santa Fe, New Mexico, on Wednesday morning, November 15th, 1922, at 11:00 o'clock, A. M.

There were present:

Herbert Hoover,	representing the U.S., Chairman
R. E. Caldwell,	" Utah
Delph E. Carpenter,	" Colorado
Stephen B. Davis, Jr.	" New Mexico
Frank C. Emerson,	" Wyoming
W. F. McClure,	" California
W. S. Norviel	" Arizona
James G. Scrugham	" Nevada
Clarence C. Stetson,	Executive Secretary

In addition, there were present:

Thomas E. Campbell,	Governor of Arizona
M. C. Mechem,	Governor of New Mexico
L. Ward Bannister,	Chairman of Committee of Interstate Waters of Denver Civic Association.
Edward W. Clark,	Joint Commissioner and Advisor for Nevada.
Arthur P. Davis,	Director, United States Reclamation Service, Department of the Interior and Advisor to Federal Representative.
Ottomar Hamelo,	Chief Counsel, United States Reclamation Service, Department of the Interior and Advisor to Federal Representative.
Charles A. May,	State Engineer and Advisor for New Mexico.
R. T. McKisick,	Deputy Attorney General and Advisor for California.
R. I. Meeker,	Deputy State Engineer and Advisor for Colorado.
Richard E. Sloan,	Legal Advisor for Arizona.
P. G. Spilsbury,	President, Arizona Industrial Congress and Advisor for Arizona.
Charles P. Squires,	Joint Commissioner and Advisor for Nevada.
Dr. John A. Widtsoe,	Advisor for Utah.

17th-S.F.-1

The meeting was called to order by Mr. Hoover.

MR. HOOVER: Judge Davis, are you spokesman for the northern group of states?

MR. S. B. DAVIS: I think I am, Mr. Chairman. The representatives of the states composing the upper basin have been discussing this matter ever since adjournment yesterday afternoon, and as is probably to be expected, there is considerable divergence of opinion between them. On the part of some of the upper states there is an opposition to anything in the form of an absolute guaranty to the lower states. On the part of all of the upper states there is a willingness to divide. There is a very earnest and deep-seated desire on the part of all of us to reach some basis of agreement in order that a pact may be entered upon.

The primary difficulty with the guaranty idea arises from the uncertainties that exist in the situation. In the first place, we have measurements only over a comparatively short period of time,- twenty years,- and the method of adjustment of reconciliation of the measured flow below the flow at Lee's Ferry, which is to be used as a basis, also introduces an element of uncertainty.

Taking the figure which was presented yesterday, of eighty-two million feet in the ten year period, it is apparent from the figures which are now available that in the first ten year period for which we have measurements, any such guaranty would have been violated. The total flow of the river for the first ten years for which we have measurements, amounted to about one hundred and fifty-five million, one half of which is seventy-seven million five

17th-S.F.

2

we feel that there must be a wide margin of safety, and we suggest, along those lines, that the figure be fixed at sixty-five million acre feet for any ten year period.

MR. HOOVER: How about the minimum annual flow?

MR. S. B. DAVIS: That was discussed, Mr. Chairman, and discussed at considerable length, and I think the feeling was that we would like to have this matter disposed of first before we get to a discussion of the minimum annual flow. I would say that my judgment is that if we reach an agreement in this matter, an agreement may be reached on the minimum feature.

MR. HOOVER: I understand this is in the nature of a minimum flow during a ten year period?

MR. S. B. DAVIS: Yes, sir.

MR. HOOVER: This does not compose the total rights of the southern states, is that the understanding?

MR. S. B. DAVIS: My understanding of this matter is that it amounts to a guaranty on the part of the upper states that that ^{water} much/will come down to the lower states; how much more water will come down, we cannot, of course, tell, but the lower states are to have what water does come down. It is a limit upon us, and not upon them.

MR. HOOVER: I wondered if you had considered the question with respect to the title of the water. In other words, to start with Mr. Carpenter's primary premise of a fifty-fifty division, this comprises a minimum, but does not compose the total under any fifty-fifty division. Is that correct?

17th-S.F.

4

MR. S. B. DAVIS: I think, and this is largely my own view on that, inasmuch as we have no machinery for measuring that flow and determining absolutely on the fifty-fifty basis, this is rather in the nature of a guaranty than in the nature of a division.

MR. CARPENTER: In the matter of the fifty-fifty basis, there is a tendency to eliminate arbitrarily the flow of certain streams like the Gila. Other elements such as spot measurements involve a realm of uncertainty. The figure arrived at is one which takes into consideration those other streams, all of which are for the benefit of the lower territory, and add to the amount passing Lee's Ferry.

MR. HOOVER: Does the sixty-five million feet comprise the equitable division with the lower states, or does it compose the minimum flow over a period of ten years, or is the equitable division phase a further matter of consideration?

MR. CARPENTER: It is in the nature of a guaranty of the amount which should come to the lower state.

MR. SCRUGHAM: The minimum flow?

MR. CARPENTER: The minimum flow to come to the lower states.

MR. HOOVER: Without any idea of the equitable division?

MR. CARPENTER: Mr. Chairman, is not your use of the words "equitable" and "legal" synonymous? They are not in fact synonymous. It is thought this shall constitute the equitable delivery at the initial point in the lower territory and that when it is added to the surplus it will afford an equitable division of the whole river. The streams tributary to the river all enter above

17th-S.F.

Yuma station. We now consider moving the base station at Yuma clear up to Lee's Ferry for determining what part of the Yuma flow shall pass Lee's Ferry.

MR. HOOVER: Mr. Norviel, are you the spokesman for the southern group? You represent that?

MR. NORVIEL: I don't know what Mr. McClure has to say.

MR. CARPENTER: Might I state the proposition in another way? In effect, this says that so much water shall pass Lee's Ferry, and leaves all the flow of the lower streams to the territory in which they rise.

MR. MERSON: I would like to state the way this appeals to me, Mr. Chairman. This is a guaranty on the part of the upper states to deliver to the lower states an amount of water in excess of their requirements, both for present development and for future estimates, based upon the Reclamation figures, and at the same time I believe this figure is an expression of an equitable apportionment under the circumstances that now exist and will exist on the river, as a whole, so you have got those two things, - equitable apportionment and a guaranty filling the lower states' requirements, as they are now estimated for perhaps any reasonable future development, and this figure of sixty-five million acre feet expresses both.

MR. MCCLURE: Mr. Chairman, I dislike to see any language used in any compact we may be able to agree upon which makes a certain minimum of delivery mandatory. I prefer an expression of permission, or non-interference. But assuming that it may be

necessary to use words which shall make it/^{the}plain duty of the upper division to deliver some minimum, I am willing to consider the figure named.

MR. NORVIEL: Mr. Chairman, taking Mr. Davis' figures as a basis, and I assume that the gentlemen from the top of the hill worked out the proposition on these figures, the use of water in the lower basin is five million seven hundred thousand acre feet per annum, and the upper basin is six million one hundred and fifty thousand - - -

MR. SCRUGHAM: Where do you get those figures?

MR. NORVIEL: Right here (indicating memorandum). Making a difference of four hundred and fifty thousand acre feet needed in the upper basin more than these figures show the lower basin's needs. Judge Davis says they are asked to assume this or that. We are not asking that. We haven't asked that. We don't now ask it. I have said before, and I say again, it is the upper states that made this proposition, and we are not asking anything. If they can submit something that is an equitable apportionment of the water we are certainly willing to discuss it, and if it is shown to us it is an equitable apportionment, we will accept it, and it will not take us long to do it. But now, the proposition they present this morning, - assuming our needs are very nearly the same, and my good friend Mr. Emerson says it is a very fair proposition, - now the proposition is a division at Lee's Ferry of six and a half to the lower basin and ten to the upper basin. The six and a half to the lower basin must take care of our present

17th-S.F.

7

and future needs in the lower basin. The ten to the upper basin only includes a future use above. I like to be moderate in my statement, but I think that is certainly an unfair proposition, and feeling that way about it at this time I certainly must reject it.

MR. HOOVER: Judge Davis' estimate of your ultimate needs are five million seven hundred thousand.

MR. NORVIEL: And the upper needs are six million one hundred and fifty thousand, making a difference of four hundred and fifty thousand acre feet.

MR. CARPENTER: The surplus of which would come down to you.

MR. S. B. DAVIS: And anything in excess of that you would get.

MR. NORVIEL: I think, Mr. Chairman, if that is the attitude that must continually be assumed by the upper division we would better try out some other proposition, because it would be utterly useless to take this proposition back to our state and expect to have it ratified by the legislature. I don't like to stultify myself and put myself in a position where we accept one-third of the water, when two thirds of it is kept above for future use, excluding present use of water.

MR. CARPENTER: Mr. Norviel, I fear you are losing sight of another feature in this proposition. We anticipate you will make much larger encroachments upon the river than you are now making, by reason of greater use of the water of the main river in the lower territory and all of that should be added to this Lee's

Ferry delivery, even up to the point of total absorption of the streams which are tributary to the lower river. This figure leaves you the privilege of absorbing the tributaries in your country, and also of receiving this additional amount of water. If you confine your mind merely to these figures as the total supply for the lower territory, your objection would be good, but all of your lower streams are left to you completely, - something that is being denied to us above. It leaves to your territory the use of those streams. You are unfettered in the entire absorption of the lower streams, to the extent of absolute dominion thereof, while there is imposed upon us the burden, whether an abundance of water is supplied by Nature or not, of meeting this guaranty. The burden of saying that we will do such a thing, and if we fail, then we violate the compact, leaves upon us the burden of opening our structures, and perhaps utterly depriving ourselves of water, to comply with the contract.

MR. HOOVER: Judge Davis has estimated the needs in the southern basin, from the Colorado River, at five million seven hundred thousand.

MR. S. B. DAVIS: Mr. Chairman, if I may,- is there any reason, on the part of the upper states absolutely guaranteeing the lower states, irrespective of precipitation conditions, that they shall have enough water for their needs? It seems to me they must take their chances the same as we. And Mr. Norviel, on the basis of that,- not that I want to get into a debate between you and myself,- there is nothing unfair in the idea that, if we are

17th-S.F.

to guaranty a certain amount of water, we should take the lowest recorded figures that we have for a ten year period and apply to those figures a certain margin of safety, is there?

MR. NORVIEL: I don't want to put the upper states in the position of guaranteeing anything at all,- I am not asking that,- I would rather get away from it, but if you insist in putting yourselves in that position, then, any reasonable guaranty would be acceptable to us.

MR. S. B. DAVIS: All right, we don't like the idea of a guaranty any better than you do, but it seems the sense of this conference has been that there should be some sort of a guaranty and that is what we are trying to work out, and we are perfectly willing to agree with them that the guaranty should be a fair guaranty,- we are perfectly willing to agree that the guaranty should be fair so far as your needs are concerned, and we are perfectly willing that the guaranty should be fair to you so far as our resources are concerned. We don't want to guaranty more than we can furnish, and we don't want to guaranty more than you need, of course. It seems that on the general principles we are more or less together. Now, take the Colorado River for the low ten year period,- half of that record for the first ten years is, roughly, around seventy million feet.

MR. NORVIEL: What about the last ten years?

MR. S. B. DAVIS: The last ten years are not the low years.

MR. NORVIEL: Let us take that.

MR. S. B. DAVIS: No, we are guaranteeing, and when you are

guarantecing you have got to guaranty in the face of the low records.

MR. NORVIEL: Those records are gone by.

MR. S. B. DAVIS: May they not reoccur?

MR. NORVIEL: I don't know.

MR. S. B. DAVIS: Neither do we. That is why we are compelled to use the first ten year period, the period of the lowest flow. There was only that amount of water in the river at that time, and we are guarantecing you a certain amount of water, and we must have a margin of safety on our guaranty, - we have no assurance that the next ten years may not be drier than that.

MR. SCRUGHAM: Mr. Chairman, I suggest that we abandon the the discussion of that six million five hundred thousand acre feet per annum which would be out of the question for the lower states to accept. We are so far apart that it does not seem that we will get anywhere if this figure is not changed.

MR. S. B. DAVIS: No, I don't think that is quite correct; they are saying they will not demand, - or that we shall not be compelled to turn down, irrespective of weather conditions, more than six million five hundred thousand acre feet, but we all know if there is more than that amount in the Colorado River it will go down below. This is not a division, - we are not dividing the waters, we are guaranteeing water.

MR. NORVIEL: Mr. Chairman, in reply to a few suggestions made by Mr. Carpenter, I remember, in his beneficence he allows us to take the use of the waters in our own rivers, or those which

rise in our state. We are grateful to him for that, but it has been definitely settled, I think, here that all of the inflow below Lee's Ferry within our state, or adjoining California or Nevada is wiped out by the fact of the scorching rays of our southern sun. Also there is no calculation made in the tabulation, from which they worked as a basis, for any acreage along, or to be irrigated by the Gila River, and I am sure there is abundant acreage to take care of every drop of water that may come down the Gila. If that is to be considered, that land should be added, and the tabulation revised to take care of that. Then our needs would run far above the needs specified for the upper basin on an equal division,- and as I considered that, with a consumptive use, revised to include the Gila, our consumptive use would be quite enough, more than enough, to make a proper consumptive use equal to and greater than that above. Then to come to us with the statement that they had divided the water six and ten at Lee's Ferry, with no compensation below for the inflow of any stream, and this six to cover all of our present as well as our future needs, and the ten above to cover only their future needs, is absolutely unfair so far as I can see.

MR. S. B. DAVIS: Mr. Norviel, in order that we may know how far apart we are in this matter, would you state what you do consider a fair amount to be guaranteed to you at Lee's Ferry?

MR. NORVIEL: I think, inasmuch as our needs are practically even, we will accept the burden of the losses below Lee's Ferry, and take a reconstructed river on an even basis at Lee's Ferry.

MR. S. B. DAVIS: Will you state that in acre feet?

MR. NORVIEL: Tell me what the acre feet are and I will.

MR. S. B. DAVIS: You know, I don't know.

MR. SCRUGHAM: It would be between eight and nine million
a year.

MR. S. B. DAVIS: Let us have it specifically.

MR. NORVIEL: I will go back to the proposition made to us
yesterday. We will accept eight million two hundred thousand
acre feet, on a ten year basis with a four and a half million
minimum, while on a five year basis a four million minimum
annual flow will be acceptable.

MR. CARPENTER: What is that last, again, on a five year
basis a four million annual minimum flow?

MR. NORVIEL: Yes.

MR. CARPENTER: I don't quite understand the five year basis.

MR. NORVIEL: It is your proposition, that we first fix a
ten year average flow, and we will split it in two, but if we have
a shorter period of average, we will accept a four million annual
minimum flow. We understood that was the proposition made to us
yesterday and agreed to.

MR. ELLERSON: What is that?

MR. McCLURE: I did not understand that it was agreed to.

MR. NORVIEL: So far as we were concerned, I think we agreed
to it.

MR. CARPENTER: That is, for any five year period there is
to be a minimum of four million acre feet per year?

17th-S.F.

13

MR. CARPENTER: You put that as an alternative to a ten year period?

MR. NORVIEL: For the ten year period, four and a half million is half.

MR. HOOVER: What Mr. Norviol means is for any one year the minimum shall not be less than four million for a five year period, or less than four and a half a year for a ten year period.

MR. S. B. DAVIS: The difficulty with eighty-two million, as I have said, is that we already have experienced ten years in which it would have been impossible for us to comply.

MR. HOOVER: The difficulty is in guaranteeing in the face of an unknown quantity?

MR. S. B. DAVIS: Yes sir.

MR. HOOVER: When you go to guaranteeing something, you want to be sure you can comply with the guaranty.

MR. EMERSON: Mr. Chairman, I can't conceive of any plan that will not amount to a guaranty, and if we have any guaranty it is going to be up to the upper states to deliver what is agreed on.

MR. HOOVER: It is an understanding, not a guaranty.

MR. EMERSON: Well, an undertaking amounts to a guaranty or it would be of no value.

MR. HOOVER: If you undertake to give more than forty or fifty per cent it is not a guaranty.

MR. EMERSON: Suppose we don't give what we agree to give under this compact, what happens? In effect it seems to me a guaranty to do either thing.

MR. HOOVER: Yes, but a percentage is not an undertaking as to a fixed quantity.

MR. ELLERSON: It is a percentage which will result, in the final analysis, in a quantity.

MR. HOOVER: Only as the quantity appears.

MR. NORVIEL: Judge Davis, in your ten year period, you have suggested that only fifty percent of the flow shall pass Lee's Ferry, that is only seventy-seven odd million. Keep in mind that seventy-seven million must supply the whole use in the lower basin.

MR. S. B. DAVIS: During the first ten year period there was a very small use, I assume.

MR. NORVIEL: I don't know about that. Anyway, your proposition seems to desire a future use of the water, and then try to give us something less than half of what you can't use.

MR. S. B. DAVIS: No I don't agree with that statement.

MR. NORVIEL: You have used all the water you could, and of what has gone down the river you don't even make a fifty-fifty division, but you put it way below that in order to make your uses more secure.

MR. S. B. DAVIS: What I said was this, if we are guaranteeing eighty-two million feet, and if the experience of the next ten years should turn out to be as those first ten years for which we have measurements, even if you add to those measurements an amount for use in the upper states, we would violate the contract.

MR. NORVIEL: And if you didn't use it, then we would get it.

MR. S. B. DAVIS: Assuming in the first ten years of use, we were using the same as at present,- around two million feet,- and add on seventy-seven million more, you would only have seventy-nine million. While your suggestion is only eighty-two million, we would still be guaranteeing three million more than we have.

MR. NORVIEL: You must consider the other seventy-seven million that went down the river.

MR. S. B. DAVIS: Sure, that is your half

MR. NORVIEL: Not only our half, but any half of the full amount over and above the amount you propose to give us. You use all you can and send down one hundred and fifty million acre feet. Now then, you are afraid to guaranty, or you decline to guaranty, eighty-two million feet out of one hundred and fifty million acre feet.

MR. S. B. DAVIS: Considering, if we did make such a guaranty, we would be guaranteeing more than half.

MR. NORVIEL: After you got through with it. The eighty-two million acre feet - -

MR. S. B. DAVIS: Even then, it would allow no margin.

MR. NORVIEL: Allowing you can use the difference between that and seventy-seven million.

MR. S. B. DAVIS: With no margin to allow for a period drier than that first ten year period.

MR. NORVIEL: Seventy-seven million acre feet in ten years, all to take care of the consumptive use and exclusive of the dry years.

MR. S. B. DAVIS: You are excluding future development.

MR. NORVIEL: Yes, I say, to take care of us, exclusive of any new use.

MR. S. B. DAVIS: It seems that we are about seventeen million acre feet apart on that basis.

MR. CARPENTER: Seventeen million acre feet for a ten year period, or one million seven hundred thousand acre feet per annum.

MR. NORVIEL: Where do you get that figure?

MR. S. B. DAVIS: Sixty-five from eighty-two.

MR. EMERSON: The figures submitted by the upper states is a guaranty by them that they will furnish sufficient water for the lower states' requirements, both present and as estimated in the future by the Reclamation figures. I don't know why the lower states should consider it unfair, if we guaranty their requirements, plus actual safety.

MR. NORVIEL: If this was to be revised each year we probably could agree to it, but it is not possible to revise it each year. If you will guaranty upon the same sort of basis, that when our needs require more you will give more for our needs, I suggest we could agree to that.

MR. EMERSON: We have agreed upon the principle,- the plan of revising this at the end of a reasonable time so that the matter can be reconsidered.

MR. NORVIEL: But we are just considering the present and future needs out of the river up to a certain limit.

MR. HOOVER: Isn't there any hopes that the upper basin would accept the whole Mexican burden?

MR. CARPENTER: None at all.

MR. HOOVER: The difficulty that strikes me at the moment in the sixty-five million guaranty is that it does not cover the needs of the southern states. Including the Mexican burden you estimate the needs of the southern states at about seven and a half million, whereas you guaranty six and a half, so that it cannot be said to cover the needs.

MR. CARPENTER: The underlying thought is that our diversions shall not diminish the flow below a certain point. That is expected as a guaranty. In this way we undertake to do certain things, and failing so to do, we would violate the compact. Any violation would be a breach of the guaranty. The word "guaranty" is unfortunate, but the upper states have no disposition to get so close to the margin line of hazard as to be in danger of a breach. To approach that border line too closely would be to court the very condition we are trying to avoid by this margin of safety which will prevent a breach. It is our desire to have a safe margin so that there never will be any friction. Just as we were debating the minimum the other day,- it is not from our desire to pinch down the lower states,- it is our desire to avoid the occurrence of an event which would create a breach between the two divisions of the basin.

MR. HOOVER: Assuming the needs of the southern states is one half of the flow, which of course, Nevada thinks is too low, or

seven million four hundred and fifty thousand, which approaches seven million five hundred thousand, instead of six million five hundred thousand,- it would be very difficult to enter into a contract in the face of those figures. I don't see how the northern states can properly undertake to guaranty that, because they would obviously be guaranteeing something very difficult to deliver during a dry cycle of years. The primary difficulty is whether the northern states would be secure in guaranteeing enough to cover the needs of the southern states.

MR. BIERSON: It seems to me, Mr. Chairman, we would go a long ways if we guaranty a full amount for present requirements and enough for a reasonable future development, and add to that the Mexican requirements, which would probably never be reached. In that way we would put ourselves in the position of absolutely guaranteeing that amount, and we should take into consideration the facts of the inaccuracy of the data, the vagaries of that river, and other matters of that kind,- we are taking the chances absolutely. And if we now give a guaranty of the requirements of the lower states, and add to that the ultimate possibility of a greater amount than the requirements as estimated in Mexico, it seems to me we are going a long ways. There is no guaranty on their part, it is all on ours, we are taking the chances and they are taking none.

MR. CALDWELL: Of course I have not been in the habit, as you know of thinking of this thing in just the way you have insisted on discussing it, that is, in proportion to our needs, or

even the fifty-fifty proposition, so these figures have not been so interesting to me as they have to some members of the Commission, perhaps.

I think that very probably the figures insisted upon for the upper states are quite a long way from accurate or proper. We have four million acres, according to the Reclamation Service estimate, up there to irrigate in the basin, and they say an acre foot and a half is enough for an acre of land. That gives our requirements as six million. Now, ultimately that may be what we will require, but there is a very great chance, Mr. Chairman, that our requirements will not be on that basis. A fairer proposition would be to prepare, in each basin, a diversion estimate that will be necessary, in which event we would need to divert up there at least three acre feet per acre, which instead of giving us a water requirement of six million, would make it twelve million. If we could divert all of that water at once, our requirements would be twelve million, except that we have some return flow now set up. If we could divert all of that water at once, we would divert twelve million acre feet on the four million acres of land, and then, when the return flow is set up we would get back a part of that amount, but until it does set up we would need to have water parceled out to us on the basis of that diversion. Just what our actual needs are no one is able to say. The Reclamation Service can't say, we can't say, but it is down to the irreducible minimum when it is made an acre foot and a half per acre. Perhaps ten million acre feet may

be said to be a minimum, perhaps eight, but certainly not six.

MR. NORVIEL: Mr. Chairman, I am glad to hear Mr. Caldwell express himself. And that is one of the things I have had in mind all the time. No matter how the guaranty was made to the lower states,- given the continued statement of one of the upper members that the excess would come to us anyway as it is impossible for them to use it all,- we now have one of the members of the upper states saying that their needs will approach seventy-five percent of the flow of the river, that it is their wish and desire, perhaps, to approach and to use every drop that is not guaranteed and that we have a perfect right to anticipate that that condition will continue. Therefore we must protect ourselves in some sort of way on this proposition to have an equitable and not an inequitable apportionment apportionment/to begin with.

MR. SCRUGHAM: Mr. Caldwell's statement merely confirms the statement I made a few minutes ago. If the upper basin will only guarantee sixty-five million acre feet per year we might as well abandon the discussion.

MR. S. B. DAVIS: I think we could say the same thing of the lower states. If the lower states are set on eighty-two million, we might as well abandon the discussion.

MR. NORVIEL: That was your own suggestion, coming not from us but from you, and we accepted that proposition. It didn't come from us.

MR. S. B. DAVIS: I think, Mr. Norviel, no proposition was made along the line of eighty-two million acre feet.

MR. NORVIEL: I heard -

MR. S. B. DAVIS: You heard the Chairman's statement applying those figures, but I think you heard no statement from any representative of a northern state making a proposition of eighty-two million acre feet.

MR. NORVIEL: Don't attribute it to us.

MR. S. B. DAVIS: I don't attribute it to you. Now, you said you could accept eighty-two million feet, and whether you call it an acceptance is a matter of language.

MR. HOOVER: Of course, the business of the Chairman is to find a medial ground. So I am wondering if the northern states will make it seven million five hundred thousand.

MR. S. B. DAVIS: If that is a suggestion for consideration by both divisions, I presume it would necessitate further caucus.

MR. HOOVER: And again you reach the question of the annual minimum.

MR. CARPENTER: We might fix the amount for ten years, and modify it to reach the minimum later.

MR. HOOVER: I think the two things are almost indissoluble aren't they?

MR. CARPENTER: Oh yes, but you would not need to accept or reject anything until both have been determined upon, but I believe you would better take them up one at a time, if I may suggest that. If that be the suggestion from the Chair it seems to me something could be considered, probably more rapidly considered, in recess.

MR. NORVIEL: I would like to say I don't like a ten year period of average flow. It is too long a time.

MR. CARPENTER: Mr. Norviel, it is dangerous to take a lesser period. It forces the upper states into the position of reducing the guaranty for the term, if it is less than ten years.

MR. NORVIEL: I would like to have Mr. Carpenter work out a plan for that guaranty.

MR. CARPENTER: I see no way to do that. I feel, Mr. Norviel, that all of us wish to avoid any elaborate terms. The simpler the plan the more perfectly it will work, and if we know the principle in simple terms, the details will work out automatically. There is no need of injecting cumbersome machinery. In the final analysis, when time has passed, the river will automatically take care of itself, in the matter of supply and demand. There is no desire to see how much we may reduce you. The spirit of the whole meeting has been to provide a compact which we can fulfill.

MR. NORVIEL: I presume, inasmuch as I am older in years,-- I would suggest, our needs, in the upper and lower divisions, are practically the same. Since the tabulation made by Mr. Davis excludes the Gila, and the low lands on the Gila, our uses out of the main Colorado and your uses out of the Main Colorado are practically the same. Then, in arriving at your suggestion again bear in mind the needs are about the same, come as near to that as you can.

MR. CARPENTER: We will submit no further proposition now. I suggest a recess to entertain the suggestion of the Chair.

MR. EMERSON: Just one phase of that question. The Chair has stated that in his opinion Mexico will not be allocated an amount equal to three million five hundred thousand, so it seems to me a sliding basis should be established when we consider the needs of Mexico.

MR. NORVIEL: I don't think we need take that into consideration.

MR. CARPENTER: The factor of hazard is all on us. By eliminating the Gila and the Little Colorado and other streams, the factor of risk lies in the allocation of the Mexican burden. We are willing to bear our share of the Mexican burden but the sacrifice should be mutual.

MR. HOOVER: Suppose we recess - -

MR. NORVIEL: Before we recess, perhaps, I might state another little proposition and let them give it consideration if they care to.

The State of Arizona proposes to allocate the waters of the Colorado River between the proposed upper and lower divisions upon a fifty-fifty division as follows:

The river is to be reconstructed annually by measuring the flow at or near Lee's Ferry in Arizona and by adding thereto the consumptive use of water in the upper basin, the total amount of water thus found to be the basis for an equal division between the two divisions, each division contributing equally to the amount that may hereafter be allotted to Mexico by international agreement or otherwise. In the event that the upper division

17th-S.F.

24

should in any year exceed its percentage and thus deprive the lower division of its percentage the deficiency shall be compensated for during the next two succeeding years.

MR. CARPENTER: I understand that would be above Leo's Ferry and not Yuma. May we recess?

MR. CALDWELL: May I ask a question?

MR. CARPENTER: I withdraw my motion.

MR. CALDWELL: Just how would you determine the consumptive use in the upper basin?

MR. NORVIEL: It is to be determined each year.

MR. CALDWELL: Just a minute. Would you predetermine the consumptive use in acre feet,-- or would you use the actual consumptive use?

MR. NORVIEL: It would have to be measured.

MR. CALDWELL: It would be very difficult, impossible practically.

MR. NORVIEL: I think I said so in the beginning of our meetings.

MR. CALDWELL: I think it would be impossible.

MR. NORVIEL: Practically.

MR. HOOVER: We will recess until three o'clock this afternoon.

Thereupon the meeting adjourned to meet again at three o'clock

P. M. November 15th.

Clarence C. Stotson,
Executive Secretary.

NOTE: The caucus continued the afternoon and evening of November 15th, the Commission resuming executive sessions Thursday, November 16th, at 10:00 A.M.

The above minutes were approved at the 27th meeting of the Commission held at Santa Fe, New Mexico, Friday afternoon, November 24, 1922,

17th--S.F.

25