

ARKANSAS RIVER COMPACT ADMINISTRATION

ANNUAL MEETING

Cow Palace Inn
Lamar, Colorado

Tuesday, December 14, 1976

MR. FRANK G. COOLEY
Chairman

P.O. Box 98
Meeker, Colorado 81641

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Judith E. Stjernholm (Mrs.)
Court Reporter & Notary
Otero County Court, Courthouse
La Junta, Colorado 81050

MR. COOLEY: At this time I am going to call the annual meeting of the Arkansas River Compact Administration to order. The delegation from the state of Colorado is on my right, your left, Bob Temple in the middle, Larry Sparks on my extreme right, Harry Bates. On your extreme right, as you know, is Lane Hackett, the secretary of the Administration. Next to him, Carl Bentrup. Guy Gibson, State Engineer for Kansas; and next to me is M. P. Reeve, Garden City. Gentlemen, not all of you have received your copies of the agenda prior to this meeting. Most of you have. Is there concurrence from Colorado on the agenda which is slightly different from that called for in the bylaws?

MR. BATES: Yes.

MR. COOLEY: O. K. Fine. And Kansas? The agenda suggested acceptable?

MR. GIBSON: We might be able to make some changes in the times you have listed.

MR. COOLEY: You bet. The times are meant for approximations.

MR. GIBSON: Fine.

MR. COOLEY: I think the most important item for business on the agenda today at this time is a review of the Amity-Great Plains resolution that was adopted in a telephone communication of the commission. I am frankly concerned about this and put it first on the agenda today because the telephone conversation may not in all respects have complied with the bylaws of the Compact

Administration and if we are able this morning to ratify, confirm and adopt that resolution, we will be "inside the church again." I have no idea of how best to proceed with this but I suggest that Duane Helton from the Colorado Engineer's office and Mr. Gibson, to the extent necessary, discuss the general terms of the resolution so that when we do take formal action, it can be shown that there was an understanding of what's to be done. Duane, is that order of procedure satisfactory to you or do you have another idea, your brow is furrowed here.

MR. HELTON: I don't know how much discussion is actually needed, I think almost everybody here has seen this resolution, has had a chance to go over it.

MR. COOLEY: That's fine. Most of us have read it two or three times, but I would like you to summarize it briefly and give us a background on what led up to its adoption.

MR. HELTON: If the Amity would like to store some of the water it owns, corresponding to its winter storage diversion to the Great Plains systems in John Martin Reservoir, there needs to be some cooperation made to give some amount to all entities concerned below John Martin.

Actually, all the other water users in 67--in Kansas would share in the benefits. This resolution would allow the Amity to do this, and it would also create a percentage distribution agreement for ditches in Water District 67. Basically the Amity would move 15,000 acre-feet in John Martin Reservoir. Ten percent of that water would be credited to the state of Kansas and would be

delivered to Kansas however Kansas so desired. The rest of the water would be available for distribution in Colorado under the terms of the agreement.

MR. COOLEY: All right. Copies of this resolution have been furnished to each of the members of the Compact Administration. The resolution was adopted by telephone conversation on Monday the 29th day of November. Mr. Gibson, do you have any comments that you want to make about the resolution or the politics of its language?

MR. GIBSON: Mr. Chairman, may we have just a second here? Jerry, do you have anything on here from that review that we made?

MR. HILMES: No, not on this resolution. The one before that we sent back to Colorado.

MR. GIBSON: One question. Jerry, pertaining to this resolution I was curious as to where this 15,000 acre-feet is to be delivered into the reservoir is going to be measured and how.

MR. COOLEY: You want to try that one?

MR. HILMES: Well, this water would be measured and delivered by the Colorado State Engineer subject to the approval of the Arkansas River Compact. The State Engineer would make deduction for transit losses and would make a calculation approved by the Administration that would specify actually how much water was actually delivered into the reservoir.

MR. SPARKS: I think he said where and how. At each

gauge station, at each measuring point until it gets into the reservoir? The initial measuring point would be the amount of water that arrives at the present headgate; instead of being delivered at that headgate, it would be allowed to remain in the river to come on down. Mr. Bill Pattie is here, he may be able to help us.

MR. PATTIE: Well, we have two measuring stations above the Fort Lyon Dam; one in La Junta and one at Las Animas. From experience, I'd rather take the one at La Junta because we've got daily observation of that station where Las Animas we do not have.

MR. COOLEY: Jerry, does that answer your question or do you want to pursue it.

MR. GIBSON: I want to pursue it, Mr. Chairman.

MR. COOLEY: Go ahead.

MR. GIBSON: That measuring station you had is about what, 20, 25 miles?

MR. PATTIE: That's La Junta, see we'll be about roughly 20.

MR. GIBSON: Well, now we ought to have a clear understanding what would be the determining factor on what basis is loss going to be determined in that last 25 miles of that water that finally arrives at the reservoir?

MR. HOWLAND: We'll stand the transportation loss, I suppose, that would be Compact determination.

MR. GIBSON: The actual transit loss would have to be

calculated. The best science right now; calculated or somebody's going to be short. Are we going to have somebody measure down before it goes in the reservoir, or is it going to be measured at La Junta and a theoretical computation.

MR. FIDLER: That's already made in the technique in the GS study that we sent to you several months ago. They are going to make that under the study and make a determination, then they'll come up with something we'll have to answer. Do you have a comment. You will have to answer that, review it and determine what the law is.

MR. REEVE : I think all of us realize that this is a one-year experiment deal to see how the thing works.

MR. COOLEY: Yes, Mr. Reeve, I think that kind of helps too. I don't see Mr. Jesse here. I do not see him.

MR. HACKETT: He is supposed to be.

MR. COOLEY: I know he intends to be here. All right.

MR. SPARKS: I think there is one point that needs to be clarified.

MR. COOLEY: Pardon me, this isn't satisfactory. This air conditioning thing is making more noise than I am and that's one think I cannot tolerate. Off the record for a minute or two. All right, fine. Introduce yourself for the court reporter.

MR. HOWLAND: Bill Howland, Superintendent of the Amity Canal. The official Compact measuring station is the Las Animas gauge. It is our understanding that this water will be measured
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at the Las Animas gauge. Now that's the way all of the Compact water is presently measured and Dick Fidler of the USGS is here and I believe if you would entice him a little bit, he would be able to tell you how they are going to calculate losses on the Arkansas River because they have made quite a comprehensive study of the matter of transit losses, but I think that the Kansas delegation are quite concerned about this and really we are too because we don't like the idea of measuring this water at La Junta which is not--it's not only 20 miles above the reservoir, it's more like 35 miles, river miles, and the Las Animas gauge is the official Compact gauge. Now, I believe it may be Mr. Fidler could clarify other parts of that but that is our understanding this would be calculated at the Las Animas gauge.

MR. COOLEY: Why don't we hear from Dick Fidler on the subject since we are chasing the rabbit, let's go all the way. Dick, will you address us on the subject, if you please?

MR. FIDLER: Dick Fidler, with the Geological Survey. The only thing that we have done on the transit loss in the lower Arkansas was one testing period in the fall of 1975. Now there was a release made from the Pueblo Reservoir that was followed as far as we could follow it toward the Kansas state line. In other words, it went beyond John Martin Reservoir, and the way the determinations were made, there were segments of the Arkansas River at our gauging stations above John Martin Reservoir. Everything below John Martin was considered a last segment, so we

weren't really looking at that area, but there is the stretch from the Las Animas gauge to the John Martin gauge that we had determined the transit loss based on the release from Pueblo Reservoir, so it was the last leg, in a sense, of that test that was made in the fall of 1975. Now, as part of the winter water storage program, this next spring, we have agreed to follow certain releases that are made from Pueblo Reservoir as far downstream as we can. Now, you recognize some complications in this and one of them being that there are no companies with the exception of Amity that will call for water down to John Martin, and the problem with Amity's situation is that their water will be taken into the reservoir throughout the storage and stored in John Martin. We need some method of getting a release from Pueblo to John Martin to again evaluate the transit losses within that stretch from Las Animas on down to the John Martin gauge. I don't know how we are going to do this right now, but this is one complication I see coming. We have agreed, as I say, to follow any releases we can out of Pueblo as far downstream as we can, but they are going to go to the headgates and that's not John Martin Reservoir, so the only study that has really been made, we have a letter report that was presented to the Southeastern Conservancy District and I am sure each of you have a copy of that, at least it was intended. That explained that study and the results of that one test and that's all the data we have on it. Now, I will say one more thing; I feel very

comfortable. We had a very good test at that time. The river conditions were ideal, we had extremely good cooperation with the ditch companies. There were a couple of minor little flaws in it, but we were able to correct that, but all in all, it was a very good, a good, reliable test and I feel any additional tests made on that river will show very, very similar results. So, in other words, from the test data we have, we will have a calculation of transit loss from Las Animas to John Martin based on that study.

MR. COOLEY: Go ahead, Duane.

MR. HELTON: The other thing is we had a pretty good check from the standpoint of gains and storage. You know, changes in storage over a period of time fairly accurately.

MR. SPARKS: There is one point that bothers me is, was it intended by this agreement that 15,000 acre-feet be actually delivered to John Martin Reservoir, if so, the transit losses are immaterial and they have got to be charged back to the Amity decree, or we talking about 15,000 less transit losses; now there is a difference there. If we are talking about 15,000 then it's immaterial about transit losses.

MR. HOWLAND: Mr. Cooley, may I address that?

MR. COOLEY: Well go ahead, Bill.

MR. HOWLAND: The actual arrangement, we understand, the Amity people, is that this 15,000 feet will be measured at Las Animas. There will be a minor transit loss between the Las Animas

gauge and the actual reservoir body, but the actual measurement point will be the Las Animas gauge because that's the last one.

MR. SPARKS: In that case it doesn't make any difference about any transit losses; that's an internal matter in Colorado, the judicial decrees within Colorado.

MR. COOLEY: I am confused right now, but I felt, Larry, that your remarks and Bill's were the two opposites of this thing and then you just said, well, that's right, in the sense that you reached agreement; which is it, 15,000 at the headgate or 15,000 in the reservoir.

MR. SPARKS: 15,000 at Las Animas, which is just above the reservoir and the losses in there are insignificant.

MR. COOLEY: All right, Duane.

MR. HELTON: Some people may not understand this amount of water is actually guaranteed by the Southeastern Colorado Conservancy District; it's a fairly firm figure.

MR. SPARKS: So as far as the Compact Administration there is going to be 15,000 feet in the reservoir, no matter what the loss is getting it down there.

MR. COOLEY: Mr. Gibson.

MR. GIBSON: Mr. Chairman, I think my concern is I may not understand that river like these folks do, but let's say there is some extra water there beyond the 15,000, who is going to decide; they going to share loss proportionately that last trip of Compact water that's available comes on, you know, or

will there ever be anything but just Amity water there at that time of the year.

MR. POLLART: May I answer that? Leo Pollart, Chairman of the Amity Mutual Irrigation Company and in our proposal and setup with it and understanding with the winter storage committee setup working out of Pueblo dam and refer to it as the committee, that this water is above normal flow of the river at that time of delivery. In other words, in the past 60 days, say this water--at the present time the setup is to be turned loose and be delivered to John Martin starting January 1. The State Engineer is to base a normal flow of what the river is normally flowing at this time of year, then that will be delivered as Compact water that's running right on in and the 15,000, or, I believe for practical matters, we'll say 15,000 is to be delivered at the Las Animas gauging station for, in other words, "nailed down" as Amity water. But the excess amount or the normal flow of the river at the present time will still be added up as Compact water. This 15,000 is above any normal water that's in process coming down the river at the present time, and this is our understanding of the situation and I believe that's the way it is in our proposal.

MR. COOLEY: Mr. Gibson, is this your understanding?

MR. GIBSON: Why I think we are getting too complicated here over a problem that really can be simplified. At this point here let's say there is 15,000 acre-feet of your water and some base flow or normal flow, as you call it; now we are going

to share equally the losses from the last place into the reservoir.

MR. HOWLAND: Proportionately.

MR. GIBSON: That's all I want to know. We measure there and share proportionately. How are we going to measure the losses. You mentioned another gauge station.

MR. FIDLER: I mentioned one below, it's below John Martin.

MR. GIBSON: O. K. So are we all agreed on the basis of some study we are going to come up with some kind of loss figure on the amount of water?

MR. POLLART: Yes, and this is to be determined on or about April 1, before release from John Martin is started. We must, under an order from the Division Engineer, Mr. Jesse, give two days' notice before we begin delivery of that water. That's to allow them to stabilize those sections and get a final reading, specially on the Las Animas gauge. He would like to have a little more than two days, but at least two days is what we have to allow, so he will know within 48 hours before the water is being delivered what the flow was in the river.

MR. COOLEY: Well, I appreciate your comments. You folks understand all this and I didn't. That's why I ask for an explanation. It's the position of the Chair that we can not have too much of this dialogue and colloquy. That's the whole purpose of the organization and I believe in this kind of exchange and I think it proves useful in the longrun. Guy, there is one

other observation I'd make and that is that from the agenda it seems to me that some of these things continue to be tied together. That is to say the operation of the Pueblo Reservoir, the winter storage program and the USGS proposed study that we are going to be discussing later this morning, are all related to the question that you raised and that in the matter you put one thing on the agenda in this outfit, you invariably go full-circle and touch on some of the others. One third observation, I think I already put it on the record, but this resolution has been circulated and was voted on at the telephone meeting, more or less in accordance with our bylaws. Is there any further discussion of the resolution or its implementation?

MR. WAGNER: Mr. Chairman, Kirk Wagner. I am on the Highland Ditch Company on the Picketwire and I wondered how this is going to affect our decision or our water on the Picketwire River. It's below the gauging station at Las Animas.

MR. COOLEY: It's not for me to answer the question. My understanding it won't have any effect on you whatever, but I would like the proper answer to be made. Mr. Helton.

MR. HELTON: I can't see that it would have any effect at all.

MR. COOLEY: It's my understanding of the resolution that it should not have any effect.

MR. WAGNER: Well, now, the lower ditches are sharing with the Amity storage. I don't know the percentage of this, but

the way we understand it that the dam will be considered dry when the Compact water is released and this will be the 15,000 feet of Amity water. Well, the lower ditches do not have the storage rights the way we understand it, but the dam declared dry and they can call us out on the Picketwire even though there is 15,000 feet of water there.

MR. HELTON: Duane Helton. Yes, that's right. When the Compact water is exhausted and the Amity call water left in, then the call could go on from 67 to those ditches above; it would be administered on a priority basis.

MR. COOLEY: Do you understand?

MR. WAGNER: Not exactly I don't.

MR. HELTON: Paragraph 9 of this resolution states--and this language is from the actual--During time when Compact water is not in storage in John Martin, Colorado shall administer, both above and below John Martin Reservoir, on the basis of relative priorities.

MR. SPARKS: What it boils down to this additional storage doesn't make any change whatsoever in the Compact. We can't make any change in the Compact, so the additional storage, we operate the reservoir as though that Amity water were not there.

MR. WAGNER: But it is there.

MR. SPARKS: For Compact purposes. We can only operate on Compact water, when the Compact water is gone, then we go back to the Compact for the operation of it.

MR. HELTON: The calls will go on from the 67 just as though the Amity water were in the Great Plains system.

MR. WAGNER: The Amity storage is what date?

MR. HELTON: 1893.

MR. WAGNER: But the based range is what?

MR. HELTON: Well, I don't know, but the Amity storage won't have a call on the river, it would be the Amity direct flow decree or Lamar direct flow or senior decrees would be the ones that would have the call on.

MR. WAGNER: Well, it's complicated enough but I can't explain what I want to ask.

MR. HELTON: I understand what your question is and I think your fear is exactly right, the calling on the river before Amity water is exhausted.

MR. WAGNER: It isn't the Amity water, it's the lower ditches, the Kansas, the amount that Amity's giving up to there and yet we are going to be called out at the same time.

MR. HELTON: Kansas can't place a call on the river.

MR. WAGNER: They are getting 10 percent.

MR. HELTON: That's storage water, that's not a call on the river.

MR. WAGNER: O. K. It's not a call on the river, but there is reservoir water that they are entitled to, Kansas also, the lower ditches outside of the Amity that they will be calling us out.

MR. HELTON: That's right. Only when there is just Amity water in the reservoir. When there is Compact water in the reservoir--

MR. WAGNER: We understand the Compact, it's the other water.

MR. BENTRUP: This water--

MR. WAGNER: The other ditches may not be receiving any water in the Great Plains.

MR. BENTRUP: They won't have otherwise.

MR. WAGNER: But yet they are, they can declare the dam dry.

MR. HELTON: But they are not doing any damage to those in 17, 17 would act just as if that water were in Great Plains.

MR. COOLEY: Let the record show that Bob Jesse is in the room and now we can say anything about him we want to.

MR. BATES: Harry Bates. I had a comment here in addressing the question the gentleman has from the right on the Picketwire. I can't see how this would have any effect in regard; this is Amity water and if they stored it where they have stored it in prior years in the lakes, it would not even have reached John Martin, so it would be treated as if we are talking about the time we declare the dam dry, then when any Compact water is in there, it would be declared dry, disregarding the Amity storage water that's in there or not, that day, whatever day that might be next spring, whether we store water or whether we don't, we'll

make a call on the river, the Compact water will be exhausted. This will have no effect on the time and the day that that is done. This is Amity's storage right.

MR. WAGNER: They are giving up part of this storage right.

MR. BATES: This is Amity storage right and they have the right to give the water to other parties if they see fit to do so. It's their water and they have saw fit in this agreement to let other people share in this stored water.

MR. WAGNER: Well, again, I don't know how to answer that. It just don't seem like--it's changing some things here.

MR. COOLEY: Of course it is, and it seems to me from the colloquy that one of the things is that your fears are justified, that your concerns are right, that there is going to be water in the reservoir that's not available to you otherwise, water other than has been there in the past, but will not be available to you, and I think this is worth going into and it's important that it be understood.

MR. WAGNER: Maybe Mr. Jesse could answer, get into it; I don't really know, I'm just bringing up these questions and we are concerned about it.

MR. COOLEY: Well, you should be concerned and we are glad you are here. This is what we are after and a full understanding of this is necessary in the value for any of these proceedings to work and your full understanding of these matters is very

important to the Commission; yours and everyone similarly situated.

MR. WAGNER: There is 3 dams here in Colorado, the Pueblo Reservoir and John Martin; now they have got the Trinidad. Every ditch company in this Arkansas is under some type of dam storage rights except Orton Ditch Company plus the Nine-Mile Ditch Company and we don't fit anywhere, and this is why we are so concerned.

MR. COOLEY: Well, we are concerned too and please don't leave before the noon adjournment because we are going to be talking about the very problems you are talking about and the next meeting of this Compact Administration will likely be at Trinidad because we feel--I think I am speaking for the Commission--we feel just exactly like you do and a full understanding of the reservoirs in relation to the ditches is necessary if there is going to be a proper operation of the river.

MR. BENTRUP: Mr. Chairman, one year's operation is going to give us a lot of answers we don't have now, so I move that the resolution concerning storage of Amity-Great Plains water in John Martin Reservoir be approved.

MR. COOLEY: Yes, and would you accept additional language on your resolution in the following: That we ratify and confirm the telephone agreement which was made November 29?

MR. BENTRUP: That would be fine. I would amend the motion to include approval of the telephonic meeting--word it the

way you think it ought to be.

MR. COOLEY: Fair enough. Is this acceptable with the state of Kansas?

MR. BENTRUP, MR. GIBSON, MR. REEVE: Yes.

MR. COOLEY: It's unanimous with the state of Kansas.

MR. TEMPLE: Did you have a second; Bob Temple from Colorado and I'd second the motion.

MR. COOLEY: Fine. Now, having seconded the motion, is Colorado ready to vote on the resolution?

MR. BATES, MR. TEMPLE, MR. SPARKS: Yes.

MR. COOLEY: Colorado votes unanimously in that resolution is adopted and Bob, thanks for the Roberts Rules of Order in this thing. All right. The second item on the agenda this morning is a discussion of flood storage in Pueblo Reservoir on August 1, 1976, and for a few minutes I thought we were going to have to put on the play of Hamlet without the Prince of Denmark and that was going to be very difficult. This is a repeat performance with you. I want you to come up here and take whatever time is necessary and give out whatever materials are necessary. We are at your disposal now for the next half hour.

MR. JESSE: I apologize for being late, I just didn't get off to a good start. I have a letter here that I wrote to Mr. Cooley in November in which I proposed that I would attach to the minutes of the meetings of the Engineering Committee held in Pueblo in September, a copy of the hydrographs we had drawn

up. I don't have any further information. I haven't received any engineering studies made by anyone other than ourselves. I didn't get a reply to Mr. Cooley, but I did talk to him on the phone. I did get a copy of the minutes from Lane Hackett. Well, I have a letter here to Mr. Cooley that I will simply read to you, and we'll probably go from there.

Attached is a copy of the hydrographs and a part of the minutes of the meeting held in Pueblo in September, 1976, concerning the storage in Pueblo Reservoir (all of the minutes were deleted that did not relate to the event).

I had our secretary re-type the minutes deleting anything that didn't apply to this particular event.

We restate our original conclusion that the peak on the Fountain and the peak at Portland would not have arrived at Avondale at the same time, as the two events occurred simultaneously and are separated by more than 30 river miles.

The peak at Portland would have followed the Fountain peak in time if Pueblo Reservoir had not been there...

MR. COOLEY: Bob, if you please, sir, a lot of the people here were at the meeting at Pueblo; a lot of the people in the room have followed this--some of the people haven't--and would you be kind enough to go back in time and for two or three minutes describe the events and bring everybody in the room up to what it is that we are talking about. Bob will go back and start closer at the beginning.

MR. JESSE: What happened was on the First of August, 1976, there was a series of thunderstorms occurred in the Arkansas

Valley. The system wasn't totally unlike that one in '65. The series of intense cells moving around, some of them separate. Part of them occurred on the upper Fountain. There were also a series of them all up and down the Arkansas, even below John Martin. One of these intense cells occurred above Pueblo Reservoir. The resulting peak from this flood, it was very high, but very low in total volume, was temporarily detained by Pueblo Reservoir. That would not have been detained had Pueblo Reservoir not been there, obviously. We determined after this thing had happened, that if the flood had not been interfered with, it would have occurred at a point in time later than a flood in the Fountain, which would have made it within the capacity of the canals above John Martin, John Martin being closed during the time and we released the water then during the next succeeding two days or day and a half, and the canals between Pueblo and John Martin picked up substantially all of it, although some of it had gone into John Martin. There's been a tremendous amount of controversy about it which is probably the understatement of the whole business here. Exactly the same thing happens any time you get a reservoir that's on a channel. The same thing happened on the Purgatory in July; a similar event which drew no comment whatsoever, where the in-flow exceeded the capacity of the out-flow.

MR. COOLEY: Now, for the benefit of the people in the audience not familiar with this, the interest in this matter

evidenced by the Compact Administration does not have to do with the judgment in closing the gates at Pueblo. That has not been questioned by anybody and we don't feel it's a proper subject for questioning. These judgment calls must be made at the time and they are very difficult to make and this isn't the reason for the interest, nor is the interest of the Compact Administration in this matter, which will continue through the morning, based upon whether Mr. Jesse's actions, in the State Engineer's conclusion, were right as of the event of August First. The reason for the intense interest in this matter and the fact that we are having this "show trial" of Mr. Jesse from place to place is that in the future the operation of the reservoirs and the headwater of the Arkansas Valley are tremendously important for how water is available for irrigation in the valley and therefore, going back and reviewing and studying this event will have benefit for the operation of the river in the future and it's only in this respect that we continue to go into this subject. Now, with that in mind, would you please go on, sir?

MR. JESSE: Yes. The stopping of the flood is the easy part. The tough part is deciding who would have gotten the water if the Pueblo hadn't been there, and that's what our job is. That's basically what we do. We have to decide who would have gotten the water; it's ownership is what we are talking about and we determined--and, of course, this was made at the

time and we went back and we have rehashed it almost endlessly since, but it would have been within the capacity of the intervening ditches because of the fact that it would have occurred later in time than the other flood and floods seem to decrease in magnitude as they go downstream. But that was a determination we made at the time we released it. We checked a series of hydrographs which were presented to the Engineering Committee in September at a meeting in Pueblo, and we have them here, don't we, Jim?

MR. KASICK: Yes.

MR. JESSE: I have small copies of them I am going to give to the Compact. We determined then that the water would have been delivered by the ditches above John Martin and we so delivered it. It was requested that we drew up the hydrographs and we haven't changed. As I said, we restate our original conclusion that it could not have arrived at Avondale at the same time, put the Portland peak later. Let me go ahead and finish my cover letter here.

The peak at Portland would have followed the Fountain peak in time if Pueblo Reservoir had not been there, and would have been substantially within the capacities of the intervening ditches. In order for the Portland peak to have been superimposed on any of the peaks, the time of travel would have had to exceed that of 1965, a much larger flood. In view of these facts, coupled with the fact that John Martin was closed and later discharged in excess of 1000 cfs, some of the "tail end" of this event was passed to District 67. That probably would not have been if Pueblo had not been there or the discharge of John Martin kept to 1,000 cfs.

We are eager to utilize any developed information and welcome any constructive criticism,...

And believe me, we sure have. That's not in the letter.

...and if anyone using this or any set of facts can come to any substantially different conclusion, we will be the first to acknowledge it and use it in the future decision-making process.

Our assets are limited, but we have been using every means available to us to improve the accuracy of our reporting and measuring systems, and we will cooperate with anyone to any extent that is within our power.

And that's my cover letter. I have attached to this a copy of the--or a condensed copy of the minutes of the Portland meeting, of the Pueblo meeting, and a photostatic copy of the hydrographs. You guys in Pueblo will recognize all these. And, that's substantially all I have to offer. The decision was made at the time. I believed it was correct at the time, and I still do. If anyone has anything different, why, we sure would like to have it.

MR. COOLEY: Well, thank you very much, Bob. Bob has certainly been a gentleman all the way through this and whatever you wish to call it, "dialogue" or "controversy" which will, no doubt in my mind anyway, continue, but I do find it very interesting and stimulating. I do wish to circulate the hydrographs, not only to the members of the Compact Administration, but I think we will circulate them through the audience as well.

MR. GIBSON: Mr. Chairman.

MR. COOLEY: Mr. Gibson.

MR. GIBSON: It's my recollection, as Chairman of the Engineering Committee, the Engineering Committee met in Pueblo on that date for a matter not related to the subject at hand, but did sit in on the discussion that that meeting really was for the Operation Committee and members of the Compact that were there. Now, if that's right,--is that right, Bob?

MR. JESSE: My involvement in the September meeting had only to do with this particular controversy. There was other subjects.

MR. GIBSON: I'm not talking about that. There were members of the Compact there also and your report does not show that and if the other members were there, I'd appreciate if you would amend the record to show that you had met with the other members here.

MR. JESSE: Absolutely. I don't recall who they were; Lane, who all was there?

MR. HACKETT: It's covered in the minutes. I think all the board members have a copy of those minutes.

MR. GIBSON: He just mentioned, though, that they met with the Engineering Committee, and other members...

MR. JESSE: Could I read into the record a copy of the attendance at the meeting?

MR. COOLEY: No. It will be appended to your report and you will hand a copy to the court reporter who will attach the thing. Go ahead, Harry.

MR. BATES: This is Harry Bates, and there were several recommendations to improve on the Pueblo Reservoir and releases of the water and flood control and I would like to ask Bob if there are any of these that have any work been done on or any investigation. Some of these I am quite sure would be referred to USGS, but I'll run down this little list that I have here: improvement on present gauging stations. I think that probably will be taken care of later, but specific question: Has there been any review of the channel capacity below Pueblo Dam?

MR. JESSE: We have not, no. At the meeting in September I believe I addressed myself to the fact that we would attempt to gain more cross-sections. It appears from some of my engineering advisors that this probably won't be necessary. I had visualized the going out and running of cross-sections, this sort of thing, surveying, but that doesn't appear to be necessary for flood routing. At the time in September, we reported that the gauging stations at Portland during the event of August First had failed. It's been put back into service and has been updated to such an extent that should the event recur, it won't damage equipment like it did that time.

MR. BATES: I believe that's all I'll direct to him at this time.

MR. COOLEY: Bob, you will be participating as well in our review of the USGS proposal. Are there any questions any members of the audience or the Compact Administration have of Bob Jesse

at this time? I think, Harry, that on the discussion of the improved proceedings there were none that were within the jurisdiction of the Committee; that was more a discussion of things that would be desirable to be done because they weren't really within our authority or capacity, but we hoped that there would be, for example, more measuring devices and I recall Mr. Sparks' comment at the time that it was really--either then or in Aspen--that it was impossible to have gauges on every tributary and every stream from a financial point of view. Thank you very much.

MR. BENTRUP: I have a question. In any future floods above Pueblo Reservoir, will you determine who this water belongs to before you release any of the water?

MR. JESSE: Yes, or it will probably occur simultaneously, but, yes, we would make the determination if this ever recurs. It's bound to; it might have one every week for the next year and go 20 years without ever having any.

MR. BENTRUP: I can see no other way that ownership would have to be determined before it was released.

MR. JESSE: We would make that determination.

MR. COOLEY: Bob, is the Trinidad Reservoir within your geographic jurisdiction?

MR. JESSE: Yes, sir, it is.

MR. COOLEY: What is the capacity of the Trinidad Reservoir?

MR. JESSE: Approximately?

MR. COOLEY: Approximately. Big one or a little one.

MR. JESSE: It's a big one.

MR. HOWLAND: 104+ thousand acre-feet.

MR. WAGNER: There's a man that done his homework.

MR. JESSE: There was a court proceeding on the 3rd of December where the court found that the conditional decree was operative so that it could begin storage in January of this coming year.

MR. COOLEY: Thank you indeed. The next item on the agenda--

MR. STRANLER: Mr. Chairman.

MR. COOLEY: Yes.

MR. STRANLER: Would you excuse me, I didn't get a chance to make some remarks about the vote. Jim Stramler, Superintendent, Fort Lyon Canal Company and I wanted to let you know that the Fort Lyon Canal Company and the Amity Mutual Irrigation Company worked out an agreement to permit them to store water as you are planning at John Martin Reservoir. One question came up, if I may, and you moved a little fast on me on getting that vote, but under item number 4, since we agreed with Amity, per se, to go into this agreement for one year, and the latter part of that item number 4, it is stated that if the Amity-Great Plains water is not totally released by October 31, 1977, it shall continue to be retained until a future date when Compact water is exhausted and then released and distributed according to provision herein.

We had some questions and reservations on this and this is what I wanted to bring up for the benefit of the Compact on how we might do this because we entered into this thing on a one-year for a trial basis only.

MR. COOLEY: What was the problem?

MR. STRAMLER: Well, to continue that delivery of that water, the storage of that water. Maybe our vice-president, George Reyher, might want to amplify that.

MR. REYHER: I am a board member of the Fort Lyon Canal Company. If they use the Compact water first, and then they call upon this but they don't use the 15,000 during the season, then that water, you asked for it to be carried over, or the Amity did, for the Compact to be carried over into the next year and this was for one year only. Looks like it kind of becomes a problem.

MR. SPARKS: It could go further, and we hope it will, but it seems to me the chance of not using that 15,000 is zero and none; of not using it.

MR. REYHER: Shouldn't it then become Compact water at the end of the season? There might be another '65 flood, you never know, and looks like when we are carrying this over and carrying it over--

MR. HELTON: If the conservation pool fills, Amity water is spilled anyhow.

MR. SPARKS: If the conservation pool fills like '65, the

Amity water is gone. It's the first to go.

MR. REYHER: It's the problem that's created in between that time, though.

MR. SPARKS: As I say, I think the chances of not using that 15,000 feet are zero and none.

MR. TEMPLE: Might I ask a question. Bob Temple from Colorado. If that water is carried over and it is this 15,000 a maximum, in other words, say you carried over 5, will you add 15 to it the next year or will you take away from the conservation flood storage pool; and I agree with Felix, it's remote that you'd ever carry any water over, but you could not expand.

MR. SPARKS: But you can't ever take away from the conservation pool because the Amity water is the first that has to be dumped in the event that it invades the flood control pool, so you can't ever reduce the conservation capacity by this water; no way, the Amity water is only using the space that's not being utilized by the conservation pool at the time that in the event that a total conservation pool capacity is reached and the Amity will no longer have any water in there; it will be gone.

MR. COOLEY: Harry?

MR. BATES: Harry Bates of the Compact Commission. I'd like to know how the Fort Lyon Canal feels that this might jeopardize their rights. This confuses me as far as carryover water is concerned and Mr. Temple referred to "in addition to it;" this is only a one-year agreement and this Compact Commission

would have to approve any action and all interested parties would have to do that, so if we continue this agreement, then these changes could take place then, but I would like to hear from the Fort Lyon Canal how they feel that if any water should be carried over, how it should injure their rights.

MR. REYHER: Well, I will try to explain it this way: the water--this is a winter storage plan, and their allotment was approximately 15,000 acre-feet measured at the bifurcation gate which is down the Fort Lyon system, and we have a storage and an agreement with them of that first water that goes in there, the Fort Lyon has a court decree of storage water which is 5483 acre-feet out of Queen was a reservoir we put the water into; how could we get that 5483 when you take that water clear out of the system and put it in another place in another storage place?

MR. HOWLAND: Bill Howland. Why don't you amplify that and tell the Commission what we have agreed to, that what we are doing with the court decree and the water that you insist you are entitled to?

MR. REYHER: Have you got the agreement here, I don't have it. Our attorney was supposed to have been here, and we thought that this wouldn't come up until after dinner so he isn't here.

MR. COOLEY: You are on the agenda after dinner to make your statement and your position.

MR. REYHER: I thought it was taken care of here and

our attorney wasn't here and we were trying to make ourselves known as to our position, where we stand on it.

MR. COOLEY: But you are down for 1:30 p.m. for the explanation of your position of the Fort Lyon Canal. The matter that was on the agenda this morning first was the ratification and approval of the resolution of the Compact Administration approving its resolution for the storage. Now, as is already clear, you get into one thing and it brings in all the others, but you will be down at 1:30 and it was represented to me and other members of the Compact Administration that the two organizations had gotten together and settled their differences but that you did want to make an explanation of this matter.

MR. REYHER: We are concerned when it becomes empty, just like the Highland, because it changes the priorities on the river, see?

MR. COOLEY: Well, that's one thing that isn't within the jurisdiction, but why don't we note that and get a fresh start at it at 1:30 as we intended. Now, Mr. Fidler, I want to state right now that due to the fact that I make a living outside of the Arkansas River Compact Administration, I am not as well prepared for this meeting and we haven't got as much notice and documentation out as we should. Can you present to the Commission, Dick, the proposal of the US Geological Survey for the study of the August First event?

MR. FIDLER: Yes. You want me up there?

MR. COOLEY: Yes. Would you do so from up here? Mr. Richard Fidler, the US Geological Survey.

MR. FIDLER: Richard Fidler. This isn't going to give you a chance to read it over, I made only a limited number of these copies, but there was a meeting we had, it's been mentioned, on September--I believe it was September 14--in Pueblo, at which time Bob Jesse did explain in detail the events that occurred relative to Pueblo Reservoir on the high flow that we were measuring. As a result of that meeting, Mr. Cooley had asked that the Federal Agencies, US Bureau of Reclamation, and the US Geological Survey work together and prepare a proposal to be able to look at for these high flow events, both historical and those that we might develop some kind of a program to be anticipating what we might do with high flows in the future, and so we did prepare a proposal. There was a letter submitted to Mr. Cooley with the proposal attached dated October 29 of this year and that's what I passed out to the Commissioners here. The proposal was prepared by the US Geological Survey. We did discuss it with the representatives of the US Bureau of Reclamation and it's also been discussed with Mr. Jesse and his staff and a couple of other people; that's not significant, but we did not distribute it widely. We wanted to have a chance to evaluate it, the basic idea behind the proposal is to develop some means of looking at historical high flow conditions and determine what the time of those flows and the duration and the quantity of those flows,

where they would be in the river as if Pueblo Reservoir did not exist and we, of course, would have to look at them as if it does exist; so we did need a means of simulating what might have happened had it not been there, so we would evaluate the flow conditions based on historical stream flow data and also use data that was collected during the period of August First.

Now, I know we don't want to rehash this subject and I am sure that Mr. Cooley's made this very clear that we are not going to try to determine whether the Division Engineer was correct or not correct; this is certainly not the intent, but I do feel that we would not dare not use that information; it's the best data that are available today with Pueblo Reservoir in existence, so as a result of all that, we would use this then to develop a flood routing computer model and we have a model that has been used--not on the Arkansas River, it's a workable model--it can use data and show with time where those peaks would have occurred so the proposal then was written to recommend that we use that computer routing model and utilize data from the past and then use hypothetical flooding situations and evaluate where that water would have been and to some degree who might have received that water. Now, this, of course, would be a decision made by the state office on who the ownership would be, but we could at least show from this computer model where the water would have been at had the reservoir not been in existence. Now, Frank, did you want me to go through the proposal?

MR. COOLEY: Very much.

MR. FIDLER: Do you want me to read the proposal?

MR. COOLEY: No.

MR. FIDLER: All right. Part of the introductory part is basically what I have already said. The proposal would be to use an existing flood routing computer model. We would evaluate data from existing gauging stations that the state and the US Geological Survey operate and maintain, and we broke this into two phases; one was using the historical data and also using the data from the period of around the First of August, 1976, and the second phase was to use hypothetical data or recommendations or whatever to determine what we might expect for future planning. Now, as I see this, I feel we can get this model working rather quickly. As I see it operational, it would be used to give the state a better guideline for knowing how to handle a high-flow condition or a high-flow situation like we had during that period. I am sure we are going to have some events similar to that in the future.

MR. COOLEY: Talk about money.

MR. FIDLER: Yes, I will get to that.

MR. COOLEY: O. K.

MR. FIDLER: Anyhow, I would hope that this would be a means of the Division Engineer's office that it would be able to determine quickly where that water belongs. That's the intent. Anyhow, our proposal was set up to work in the fiscal year 1977;

obviously we are already into that year, but I didn't feel it would take a complete year and we felt it would be something we could get started on rather quickly so we could work this on a cooperative program with the Arkansas River Compact Administration and the US Geological Survey on a 50-50 program. Phase one, evaluating the historical data, we had estimated \$2500 on each side for a total of \$5000, and on phase two, which is the projection and forecasting phase at \$7500 on each side for \$15,000; a total of \$10,000 on each side or \$20,000 and the program would end on September 30, 1977, at which time we would provide shortly thereafter, at least a rough draft of a final report evaluating-discussing what we had done. That's all I have. "

MR. COOLEY: Fine. Stay here. At this time, I want a man here to stand and be recognized; Mr. Gene Eastin, who is the representative of Congressman Sebelius of Kansas. Gene, would you be kind enough to stand and let everybody see who you are? Thank you, sir. The chief water expert in the office of Congressman Evans is in the very process of moving from Congressman Evan's office in Washington to Pueblo where he will reside and he could not be here for that reason. Is there another representative of Frank's office here? I don't think so, but we'll communicate all the matters before this meeting to Congressman Evans through his administrative assistant. Aside from the money part of the recommendation of the USGS, is there any comment from anyone on the Compact Administration about the

proposed study? Larry, surely you'd have some comment to make, extemporaneously, on this subject.

MR. SPARKS: Well, the problem is, of course, the budget is already in and been approved by the Governor's budget office and I don't know how we can increase it at this point.

MR. COOLEY: Well, my request was that you remark aside from that problem.

MR. SPARKS: Well, it seems to me that the Southeastern Water Conservancy District should either conduct such a study or participate in it, and John Martin Reservoir, Pueblo Reservoir, the problem area was constructed by that agency, and it seems to me that that district, therefore, should either fund the entire thing or at least contribute to the funding.

MR. COOLEY: Any comment on the desirability of the study in the first place?

MR. SPARKS: I think the study is needed. The question is, who funds it, I think is going to be the problem.

MR. TEMPLE: Mr. Chairman. Bob Temple, Colorado. I agree. I think the study is tremendously needed, but I also concur with Mr. Sparks in that the Conservancy District, the Pueblo Dam, actually created the problem, so I would sure think they would participate in the funding of it, if not entirely.

MR. COOLEY: O. K. Mr. Bates.

MR. BATES: We have no representative from the Conservancy District here.

MR. SPARKS: I don't believe there is; however, Bob Jesse from the State Engineer's office, the Division Engineer is here and it seems to me that the determining factor of whether or not such a study should be made rests with the State Engineer because that's the office that would be using the results.

MR. COOLEY: At the Pueblo meeting, I think if I recall, a tacit endorsement of such a study by Mr. Jesse on behalf of the Engineer on the assumption as expressed in his letter that he certainly doesn't object to any such investigation and if any other results be established that he would be the first to use it, but why don't we hear from him again. Bob?

MR. JESSE: I can commit my division office to use the best information available and we will certainly use the best data we can get, no matter where it comes from and I said in my letter, I said at that meeting that we'll use the best information available at the time we made that determination; the best information we had was the data we had, but if we had some other facts, we'd certainly use them.

MR. COOLEY: Thank you, Bob. Mr. Bentrup, what's your position on this matter?

MR. BENTRUP: I think it's a very necessary study, whether it be a matter of where the money is coming from this year.

MR. COOLEY: Don't these practical fellows stick out like a sore thumb?

MR. BENTRUP: I would like to see the study done this next year.

MR. COOLEY: All right. Mr. Gibson.

MR. GIBSON: Well, I would just say no doubt the study is needed and it's a matter of all agencies involved and how the study should be financed.

MR. COOLEY: Mr. Reeve.

MR. REEVE: I agree. I think the consensus is the same all the way through.

MR. COOLEY: Fine. Now, Mr. Eastin, you are wondering, I am sure, why we are staying in such close touch with the Congressmen from the two states, and I thought I'd end your suspension.

MR. EASTIN: We never have anybody asking for any money.

MR. COOLEY: All right, good. Seriously, do you have any suggestions of what would be the most practical way for us to approach? We do have available funds to the tune of \$20,000 from the US Geological Survey which is very helpful. May I ask, do you know, is this inclusive of United States Bureau of Reclamation funds or do you wish to speak for them or can you address any part of this.

MR. EASTIN: I think I can speak; this does not involve-- am I right, P. O.--as far as I know it does not.

MR. ABBOTT: We will work closely--

MR. COOLEY: I think we are talking with Mr. Abbott from the US Bureau of Reclamation.

MR. FIDLER: It's a study that the Geological Survey has done and we do have the facilities and I think we can do that, is that correct, that you agreed or the Bureau agreed that we would probably end up doing the study with you being an advisor?

MR. ABBOTT: Yes, it's merely adapting a program they already have.

MR. COOLEY: You bet. Is there any fiscal contribution that we could reasonably pressure from the Bureau of Reclamation?

MR. ABBOTT: I couldn't speak to that at all. Those are construction funds we are talking about and I assume they are committed for the fiscal '77.

MR. COOLEY: There would be perhaps some discretionary fund and investigation and field report that might or might not, depending on how things were put together.

MR. ABBOTT: I will look into the possibility, but I couldn't say for sure today.

MR. HIGBEE: You might ask them to make a loan of personnel to do this, which would not be reimbursible and be perfectly fine and that's happened all over the government.

MR. COOLEY: Good for you, Mr. Higbee. There is another one; we have already heard about the Southeastern Colorado Conservancy District. Oh, yes, Colonel Leonard couldn't be here today either from the Corps of Engineers, but certainly the Corps of Engineers are involved in this matter and will be more involved because of Trinidad and what I am concerned with is not only the

operation of Pueblo, but it seems to me we had better face from the very beginning the operation of the Trinidad Reservoir and we need the same data both directions, and for that reason Colonel Leonard's absence is all the more critical. How best to pursue this thing.

MR. REEVE: Well, we might look at it like we would in our own business, do we have to match this money, Mr. Fidler? In other words, what I am thinking is maybe we can not have to spend \$40,000.

MR. FIDLER: The only source of funds that the Geological Survey has is through cooperative programs, matching funds.

MR. REEVE: In other words, if we couldn't match with funds from a taxing agency, we do not have money. That makes it a little different.

MR. COOLEY: Bill, will you pass the plate?

MR. HOWLAND: I'll do my best.

MR. SPARKS: Let me throw out a thought; I don't know what kind of bind Kansas would be in on the budget, I am in a bind on mine, but if we could reduce this amount, if the Southeastern District is willing to pick up half of the cost, which would be \$5,000, leaving \$5,000 as the Compact share, I would be willing to go before the Joint Budget Committee and request Colorado's 60 percent of that \$5,000, at the risk of incurring the Governor's ire, of course, because he's already approved the budget, but if it's possible for Kansas to do the

same thing.

MR. COOLEY: That's a Thousand bucks, Guy.

MR. GIBSON: That's 2500.

MR. SPARKS & MR. TEMPLE: Be 20 percent, \$2,000.

MR. GIBSON: We are in the same position as Colorado, we have had our budget hearings and our only hope probably would now be in front of some legislative committee as to whether or not they would make a separate appropriation, and I think that Kansas is about like Colorado, it's going to be a real tough session this year, real tough.

MR. REEVE: All of them are thinking cheap.

MR. COOLEY: Well, my delay in getting this thing moving after it was bounced back to me is all the more embarrassing because of these discussions.

MR. REEVE: I think we all kind of agree that the study is very necessary. Is there another possibility of spreading that into another fiscal year?

MR. FIDLER: There is always that possibility. I don't think we would be prepared, though, if it's a valuable study to have the results when we might get a next flood if that's what we're after. I think we'd be better off if we could do it before next summer.

MR. COOLEY: I have an idea, it may be a very bad idea, but I'm going to try it and let's see. I would think that a committee composed of Dick Fidler, who is at the podium, Duane

Helton from the State Engineer's office of the state of Colorado--

MR. SPARKS: Now wait a minute, let's correct that, he's not from the State Engineer's office, the State Water Board.

MR. COOLEY: There is a difference, right? And Congressman Evan's representative when he gets to Pueblo next week, be requested by us to pursue the question of funding of this study and it sounds to me like just an unholy enough alliance that they might be able to, and I don't have too much sympathy for the representative of Congressman's office because he couldn't make it, so all the more appropriate there. Any comments on that method of procedure?

MR. SPARKS: Well, the problem is that the proposal is from the Geological Survey matching funds and no other federal money could be used if their money is put up, so we'd have to find an entirely different source of funding if we are going to federal funds.

MR. COOLEY: Yes, that's right.

MR. SPARKS: There is a prohibition of matching federal funds with federal funds.

MR. TEMPLE: We can now match revenue sharing with other federal funds--

MR. SPARKS: It depends on the type of funding.

MR. TEMPLE: --as of January 1.

MR. COOLEY: I think that's right. Well, it still might be appropriate. We don't want to put Tommy Thompson on the

fund gathering part of the job, he is going to be one of the recipients of our pressure.

MR. SPARKS: There is another possibility, that the Southeastern District go ahead and fund the study and the Arkansas Compact Administration will agree to pay them the \$5,000 if we can get the money, which would be the following fiscal year. I think we can get it if we properly budget it. I am sure we can in Colorado and I suspect Kansas could too if it's properly budgeted. The Conservancy District is not under that type of bind. I don't think so, at least, but from a budgetary angle, I think the Conservancy District come forward with the money that the Compact Administration will attempt to fund \$5,000 of it in the forthcoming fiscal year.

MR. COOLEY: I think that idea's first rate; at the same time, I don't want to give up the notion that the Corps of Engineers in building these reservoirs is the one that's making the studies necessary.

MR. SPARKS: It's the Bureau of Reclamation.

MR. COOLEY: How about Trinidad?

MR. SPARKS: That's the Corps of Engineers.

MR. COOLEY: And we ought to pursue the alternative sources of funding.

MR. BENTRUP: The Conservancy District is going to benefit a lot; I don't think it would be out of order to ask them.

MR. COOLEY: I think that's the first string to the bow.

MR. BENTRUP: Larry's idea is real good.

MR. COOLEY: All right, Dick, is there any other question about this study or what it was or means?

MR. FIDLER: No.

MR. COOLEY: Thank you very much, Dick; appreciate your being here this morning.

MR. REEVE: Is there any action we can take, Mr. Chairman?

MR. SPARKS: I think the first thing would be to follow up with the Conservancy District; we'll pursue that, but I will make a motion, well, get it in the record so we know what we are doing, that we approve this study and urge that it be done as soon as possible on the condition that the Southeastern Water Conservancy District provide funding to the extent of \$10,000 upon the provision that the Compact Administration will include in its next proposed budget \$5,000 to finance half the study which would be used to reimburse the Southeastern District.

MR. COOLEY: Is there a second to the motion?

MR. REEVE: One question before we second it. As I added those figures up, that's \$40,000 instead of 20.

MR. COOLEY: The study is a \$40,000 study.

MR. SPARKS: It's a \$20,000 study, \$10,000 each side.

MR. TEMPLE: Bob Temple from Colorado and I would second it.

MR. COOLEY: Motion's been made and seconded. You want further discussion or time?

MR. GIBSON: Just for clarification now, what is the motion? That the Compact would put up what--how much is Compact going to put up?

MR. SPARKS: \$5,000. Next year, we would budget for it.

MR. GIBSON: Budget for \$5,000 next year.

MR. SPARKS: That's right.

MR. GIBSON: And then of the 10,000 that's needed, eventually the Compact's going to have 5,000 in it and the Conservancy District would have 5,000.

MR. SPARKS: That's right.

MR. GIBSON: I'd second.

MR. COOLEY: The motion's been made and seconded. Are we ready for a vote?

MR. BENTRUP: Kansas votes yes.

MR. COOLEY: Kansas votes yes. Colorado?

MR. SPARKS & MR. TEMPLE: Yes. (Mr. Bates nodded)

MR. COOLEY: Colorado votes yes. The resolution is carried. We are operating ahead of schedule; I hope to break up early this afternoon. The agenda this afternoon is at 1:30, the Fort Lyon Canal explanation; the formal matters before the Commission beginning with the minutes, committee reports, election of officers and so forth, this afternoon. Having adopted this agenda, even though it be flexible as to times, I don't want to do violence to it, but some time is going to have to be devoted on the money affairs and I would suggest that between now and

noon we could have the discussions and the understanding of a proposed budget so that this afternoon we might be able to adopt the budget for the next year in one or two minutes if we did the work on it now. Is that acceptable as a way of proceeding under this agenda? I don't see any assents but I don't see any negatives either. I will say to the people here, between now and the noon break that the Administration is going to be working on its budget. We'll be back to water matters with the presentation of Fort Lyon at 1:30. Every one of you is welcome to stay; those of you who have more interesting things to listen to than us discussing next year's budget are also free to leave. Yes?

MR. ABBOTT: Could I say one thing in defense of the Bureau and Southeastern?

MR. COOLEY: Yes.

MR. ABBOTT: I think, and Dick might correct me on this, I think this would have been a much more expensive proposal had not they already had the program which was developed under the program was developed for the transportation loss study in USGS, the Bureau is--it's not a brand new program, it's been used other places also. And since they do have some money into it already, I am not trying--they are doing their part.

MR. COOLEY: I think that was a welcome comment and I would also say that I am sure if we repeat it often enough, even Mr. Jesse will believe, at least in part, that the purpose of
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this is forward-looking rather than to re-try his activity on August First of this year. O. K. Do you have some materials, Lane, on the budget that you are ready for us to work on? We'll do that and those that want to go are welcome to come back at 1:30 and those that want to stay, fine. Off the record for a minute.....We'll be back on the record, gentlemen. Where do you wish to start, Lane? What's the most appropriate of the three documents you have given us, the report, the budget or the auditor's report? .

MR. HACKETT: What do you want to start with?

MR. COOLEY: Well, sir, it would be immaterial. It might be best to look back to see what we have done as far as the audit report is concerned and you don't plan on approving or going into that type of thing now. Let's do what we have to do.

MR. HACKETT: Our bylaws require us to be audited by a firm of CPA's each year. In a blue cover you have the report of the auditors that indicate that their report fairly and adequately reflects the activity of the Association.

MR. GIBSON: What did they find out?

MR. HACKETT: Overspent a little bit.

MR. REEVE: What else is new.

MR. COOLEY: I am at page 4 of the audit sheet, the balance between assets and liabilities; I see a substantial cash item here that also seems to show up in the report's significant unexpended

funds. I don't know how those guys always seem to make them balance out, don't they, no matter how desperate you are. Are there any questions for Lane in the auditor's report or can we milk any more information out of this?

MR. HACKETT: I might add that it shows on page 5 that there was excess of expenditures over assets or budget of \$2,316, and our next year we'll also probably indicate the same thing as disbursements will be larger than the budget due to the part of our special meeting expenses fell into this audit report and the Aspen meeting expenses will go into next year's audit report, so there will probably be an over-expenditure on this year's and next year's.

MR. REEVE: Well, in the tight financial situation that our respective states are in, I think that this is a very sound basis for us to operate on.

MR. COOLEY: Since you have mentioned that, the \$9,000, well, last year it was \$11,700, and I don't think we want to let ourselves get down to zilch, but I think it would be all right for us to get down to--what did you fellows agree, \$5,000?

MR. GIBSON: Did our fiscal year end October 31 to do business?

MR. HACKETT: Our budget fund is set up June 30th.

MR. GIBSON: We don't budget on the state level. The Compact is on a fiscal year.

MR. HACKETT: The Compact year ends October 31 and the

fiscal year ends June 30th, the way our budgets are set up.

MR. GIBSON: You have got a budget set up on a fiscal year but you have got an audit on a different basis.

MR. HACKETT: I think he explains that, though.

MR. GIBSON: Is that what we want, members of the Compact?

MR. BENTRUP: Is that what we have been living with?

MR. HACKETT: It's an unwieldy situation to work with.

MR. COOLEY: I'd like to pursue this further. It seems to me that these years are singularly unfortunate and that the business of having a budget for two years into the future is just about as awkward a monster as I have seen.

MR. BATES: What will it take to correct it?

MR. TEMPLE: If we can't correct it, if you want the states to budget that money within--

MR. SPARKS: We are not budgeting two years ahead--well, in time we are, but our budget, most nearly every state has to have the budget in next July and that's the budget we are considering right now, although it's for fiscal '78, we have to submit ours in July, so this is the only time that the Compact Administration can act on it.

MR. HACKETT: The next year's budget that was approved at Aspen, the '76-'77 budget that was approved in Aspen was pretty good-sized budget including USGS monitoring systems and so forth. Now, that's in there.

MR. BATES: That's in this proposed budget?

MR. HACKETT: It's already been approved and it's been sent to the states.

MR. SPARKS: That's the one we already have.

MR. HACKETT: It was approved in Aspen.

MR. SPARKS: Practically all states budget a year in advance; that's our problem.

MR. HACKETT: These funds that you were discussing on this flood study, if they are thrown in this budget, will not actually become available until '78.

MR. SPARKS: Until '78.

MR. HACKETT: Until '78, yes, sir.

MR. COOLEY: Fellows, we have got two conversations going on here, Guy, and it's important that you two fellows mix it up.

MR. SPARKS: Make a motion that all future items of the Compact Commission be done on a fiscal basis.

MR. COOLEY: There is a motion been made and seconded that all audits be done on a fiscal-year basis.

MR. SPARKS: July 1 to June 30.

MR. BENTRUP: Second.

MR. COOLEY: All right, now, any discussion? I've got one question to those of you who are familiar with these fellows, does that July date hit the CPA's at one of their busy months? It doesn't, does it?

MR. HACKETT: No. Locally I believe our present auditor would probably be better fixed in July than he is other times.

MR. COOLEY: All right, fine. I wanted to ask that question. Is the state of Kansas ready to vote on that motion?

MR. BENTRUP: Yes.

MR. COOLEY: Kansas votes aye. Is the state of Colorado?

MR. SPARKS: Aye.

MR. COOLEY: Colorado votes aye. The motion is carried.

MR. GIBSON: Now, Mr. Chairman, what about the period of between October 31, '76 and July, we won't have any audit.

MR. TEMPLE: Can't he make an 18-month audit?

MR. SPARKS: If he audits as of the 30th of June, we are covered.

MR. COOLEY: We'll have a short audit. We'll have one short audit. Mr. Gibson has a motion to make at this time on the record.

MR. GIBSON: I would move that the secretary be instructed to deposit in a passbook account those funds in excess of \$2,000 accumulated in the Compact checking account and when needed, be further instructed to withdraw from said passbook account funds to be redeposited in the checking account.

MR. COOLEY: You have heard the motion, is there a second?

MR. TEMPLE: Wonder if it should be--

MR. HACKETT: My signature's no good.

MR. GIBSON: The treasurer.

MR. COOLEY: The same motion except that correction. Mr. Bates seconded it. Is there further discussion on the motion?

Kansas ready to vote?

MR. BENTRUP: Aye.

MR. COOLEY: Kansas votes aye. Is Colorado ready to vote?

MR. BATES: Aye.

MR. COOLEY: Colorado votes aye. Thank you.

(Noon recess at 11:55 a. m.)

MR. COOLEY: It's 1:30 o'clock in the afternoon. Harry Bates has not yet returned, but I think in the interests of moving along, we'll go back in session. This afternoon, the first item on the agenda is the statement from the Fort Lyon Canal. Mr. Lefferdink, attorney for the Fort Lyon is here and we welcome him and will you prefer to make your statement from where you are or come up; whatever suits you best, that's what we want to do.

MR. LEFFERDINK: Oh, why don't I come up.

MR. COOLEY: Fine.

MR. LEFFERDINK: Well, I guess as everybody is aware, the Fort Lyon had filed an objection to Amity's storing water in John Martin and we thought that the interests of all that this should be explained; notwithstanding the fact that we have now worked out a satisfactory agreement with Amity so that we don't believe there are any real problems now involved. Nevertheless, for clarification, we think there should be an explanation of why we objected. We objected basically because there is a decree which

has been entered by the District Court of Bent County back in October of 1944, which is based upon an early agreement between Fort Lyon and the Amity made in the year 1897. This decree was entered under a stipulation following a lawsuit that had been filed. Under that decree Fort Lyon gets the first 5,483 acre-feet of Amity's water which it has the right to under its storage decrees in the Great Plains Reservoirs. The mechanics of the thing are that Amity uses the Fort Lyon direct delivery canal in order to transport its water for delivery into its storage reservoirs in the Great Plains Reservoirs North of town, and this 5,483 acre-feet that we are entitled to ordinarily is put into the Queen Reservoir and for the benefit and use of the Fort Lyon, and then Fort Lyon takes delivery on demand. So, it was our position that this agreement to store in John Martin violated that decree and that stipulation because no provisions were made to deliver the 5,483 acre-feet to Fort Lyon. Now, as I have stated, an agreement has been made with Amity where we have worked out a satisfactory arrangement and we think it might be helpful if we would file with you at this time, if you would like to have it, a copy of this decree, together with a copy of the agreement which has been made between Amity and the Fort Lyon.

Without going into the details of the present agreement that was just made, it's for a term of one year only, and was made on the basis of Amity's request that they needed this time to make certain studies particularly as to evaporation and seepage and in

the spirit of trying to cooperate with them and other ditches, the Fort Lyon believes that this is a fair solution to the problem.

MR. COOLEY: Without objection, we'll file the agreements with the minutes of this meeting, an appendum thereto.

MR. LEFFERDINK: O. K. I'll offer them at this time.

MR. SPARKS: What happens to the 5,000 feet?

MR. LEFFERDINK: You mean under the agreement?

MR. SPARKS: Yes.

MR. LEFFERDINK: It's delivered whereby we are getting half of that, basically on our call to be delivered at any one of our points of diversion. The other half of it, we'll pick up on a call well after the decree's have been filled.

MR. SPARKS: What's the total Amity storage decree in all the Plains Reservoirs?

MR. HOWLAND: 265,580 acre-feet.

MR. COOLEY: Mr. Bates, we took the liberty of starting without you. Mr. Lefferdink has tendered for our minutes, the agreement between the Amity and Fort Lyon and it's my understanding implicit in his remarks that any objections to our resolution has been withdrawn by his clients and if you had any questions or thing you'd wish to go into, we'd be glad to cover as much as you wish.

MR. BATES: Not that I know of.

MR. COOLEY: Fine. Thank you, Mr. Lefferdink.

MR. LEFFERDINK: Thank you.

MR. COOLEY: Just a minute. Is there anyone in the audience? Mr. Pollart.

MR. POLLART: Yes, I would. Probably the question that's going to come up now that this explanation has come out from there, as to where we are going to get the 15,000 feet for in John Martin. The total amount allocated to Amity under today's winter storage program out of Pueblo is 17,850 feet on 105-day storage period and subtracting the 2,741, we'll still come up with a little over 15,000 acre-feet of water that's to go to Great Plains storage.

MR. COOLEY: Fine. Do you know, offhand, what your transmission losses are in this?

MR. POLLART: No, sir, this is to be measured over--or at least in the presentation of the plan of augmentation of this, I guess you would say, that amount of water is to be measured over the Las Animas gauge.

MR. COOLEY: Mr. Lefferdink, you are certainly welcome this afternoon and you or any other representative of the ditches of the Arkansas are most welcome to be heard at any of the Compact meetings. Thank you, sir.

MR. LEFFERDINK: Thank you.

MR. COOLEY: The next item we go to, I would suggest is not on water matters; there very well may be more water matters that come up mixed in with the Administration business. In any

event we are going to be moving rapidly. As to minutes, Mr. Hackett, the bylaws call for the approval of the minutes of the previous meeting. What action should be taken with respect to minutes.

MR. HACKETT: We have the 1975 annual meeting minutes, we have the special meeting minutes at Garden City and Aspen meetings and also probably you wouldn't be interested in the Engineering Committee meeting that met at Pueblo, but there it is. I think each board member has had copies of these for review.

MR. COOLEY: These are in the form of verbatim court reporter's transcripts of all proceedings at these.

MR. HACKETT: In the past if there have been no objections, they are automatically approved. You can handle it any way you want.

MR. COOLEY: Fine. I have shaken things up enough. Is there any objection to the adoption of the reporter's transcripts of any of these three meetings? Without objection, they will be approved. The next matter then we'll go to is committee reports and it would seem to me that we might have some discussion and we might not, of the committee meeting at Pueblo, but would that not be--which committee was that?

MR. GIBSON: Operations Committee.

MR. COOLEY: I knew there was a possibility for error in that thing. Is there a report of the Operations Committee on the Pueblo meeting or any other?

MR. GIBSON: Harry Bates is Chairman.

MR. BATES: I have no report other than what's been reported.

MR. COOLEY: As Mr. Gibson pointed out, the principal thing there was the adoption of criteria for the 10,000 acre-foot permanent pool. Was that not so? What were the criteria?

MR. BENTRUP: The review of the operations of the Pueblo Reservoir during the storage period, ^{AUGUST} ~~October~~ 2nd flood, and we also discussed--we have probably got a copy of the minutes of that meeting--we discussed the High Plains-Amity storage in John Martin. That was about the gist of it. The main meeting was taken up by an explanation of the storage in Pueblo.

MR. HACKETT: Also the Water District 67 percentage agreements which pertain to conservation water and the Amity-Great Plains water was studied at that meeting.

MR. COOLEY: You are right, but the formal purpose of that was the refinement of those operating criteria; that's what we were called for.

MR. BENTRUP: Yes.

MR. COOLEY: Is there any action required on that?

MR. BENTRUP: Just the approval of the minutes of that meeting.

MR. COOLEY: Well, I guess we have done that. Anything on administrative and legal?

MR. REEVE: Mr. Chairman, Mr. Sparks is the Chairman of

of that committee and I am the member and I would like to request one thing and I guess I'll do it in the form of a motion that this group go on record in requesting the Extension Services of both the state of Colorado and the state of Kansas and they be notified by letter by you as Chairman to request that they bend some effort towards developing of crops that will take less water and other water conservation measures.

MR. COOLEY: Mr. Reeve has made a motion, is there a second?

MR. SPARKS: Well, I'll second it. Might add that we have tried that from time to time. We did get a man assigned down here from the Extension Service, and we paid part of his salary and the Conservancy District paid part of his salary.

MR. COOLEY: Don Miles, I will give you 60 seconds on the subject if you would want to comment any.

MR. MILES: Well, I think should mention that what Larry was referring to is, of course, a number of years ago. That did not involve me, but it was Jim Doyle at the time. I think that probably your concern with both the experiment station and the Extension Services in this case, in terms of research and application to trying to develop and put into effect techniques which will allow for getting more out of our limited water supplies. Mr. Gibson tells me that Kansas is starting into a wide, very expensive program along that line. Who is this funded by, Guy?

MR. GIBSON: Funded by the state of Kansas and through

the college.

MR. REEVE: The reason I made my motion was I thought we needed such action to get somebody off the river because we have got some real problems in this valley, over the adequate conservation of our water and its benefit.

MR. COOLEY: O. K. David Pope from Kansas and, David, I am going to give you a minute and I am going to give you the part of the minute that Don didn't use to explain what you are doing and I found it very interesting at Garden City and there are people here that will find it as interesting as I did.

MR. POPE: O. K. Thank you, Mr. Chairman. This, I suppose, ties in to some extent in Kansas. We have recently formed what are called Groundwater Management Districts. There are five of them in the state of Kansas at this time, just recently formed, the oldest being two years ago and the newest being six months ago. I am employed by the Southwest Kansas Groundwater Management. Since our local intent to conserve and manage water, groundwater in particular as opposed to surface water; although there is probably some interrelationship at least. Among these things is to assist the professional, local input to water matters and to assist the Division of Water Resources which is a separate agency, but we interrelate on a lot of things. Some of our interests do tie in with supporting these efforts of efficient use through whatever is necessary; conservation practices, new techniques, and applying these. So

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we will be supporting these efforts in every way we can, but our primary function is to assist with the administration of Kansas water law.

MR. COOLEY: O. K. Now, stay on your feet a minute. What studies are going on now that you are connected with and how much is being expended in those studies?

MR. POPE: We are not personally, as a district, connected with any formal studies at this time related to research. I expect that in the near future that we will be supporting some that relate. Here again, we are primarily concerned about groundwater, but some with artificial recharge. We have our eye on possibly supporting a study towards the efficient irrigation system for such things as how can we schedule irrigation and apply water more efficiently through automated surface irrigation. Some of these things, I don't think we, in the near future, would be getting into the real theoretical type of thing in terms of generic manipulation of crops to use less water. Be more of the applying of techniques to use less water.

MR. COOLEY: And even though you may have done it in your remarks two minutes ago, describe the geographical in which you are operating and give again the name of your organization.

MR. POPE: Our particular district that I work for is called the Southwest Kansas Groundwater Management District, covers an area of about 5,700,000 acres in the extreme southwestern corner of Kansas. Comprises part or all of 13 counties. Essen-

tially for those of you familiar with the state, Dodge City West to the state line to Colorado and from Garden City South to the Oklahoma state line.

MR. COOLEY: Thank you very much, Mr. Pope.

MR. GIBSON: You forgot to mention that it's the biggest one in the world.

MR. COOLEY: The reason I wanted to hear from Mr. Pope is the fact I personally think the area he is working in is where this Commission is going to be working five years hence, the interrelationship of surface water with groundwater in the valley.

MR. GIBSON: While David didn't mention it, he has verbally agreed to support us in our effort of intermingling with the surface and groundwater from Garden City to the state line. He is willing to verbally support us.

MR. POPE: Yes, I should have mentioned that, entered into some cooperative agreement with the USGS, only ours in this case are collection of additional hydrological data and observational props, etc., etc., and in addition we are supportive of the one we have been talking about in Kansas that Guy mentioned here a minute ago.

MR. COOLEY: Thank you. My instructions as Federal Appointee from the White House are to stay completely neutral and not to sponsor any agency or group or any point of view and I think it would be easy for another personality to let that

instruction be overwhelming, but my instructions also go on to actively pursue and promote the national interest and it seems to me that the effective utilization of water in the valley is very much in the national interest and I personally endorse the kind of work that goes on in both sides of that line to get a better understanding of the efficient use of water. I think we are getting some good results here this year.

MR. GIBSON: What I think, I would extend you an invitation to attend a meeting on the Friday of this coming week on this very topic of some 12 agencies in the state of Kansas, Salina, on this topic of adoption of new criteria for crop use as a result of all these studies.

MR. REEVE: Actually I am thinking partly along the lines of water conservation. I'm thinking of the genetics, that hasn't been hardly cracked yet.

MR. POPE: We agree.

MR. COOLEY: I think were we are on the agenda is there is a motion before the Commission and the motion has been seconded and there has been some discussion that's more or less in point. Is there any further discussion of the motion? Don almost had his hand up here a second ago.

MR. MILES: Yes, Mr. Chairman, I wanted to comment in relation to this genetics angle. We are, at the experiment station at Rocky Ford, doing some testing of sorghum varieties

in which we are finding that some, if we introduce them to very limited irrigation early in the season or a lack of irrigation up to a certain point, as soon as they receive irrigation water, they jump ahead and take a lot of water and other conditions themselves and use water much more gradually and conserve water much more. We are working with this to a limited extent with sorghum. I would like to be doing some work with corn. We are doing work with irrigation programs as they are interrelated with fertility, getting down to rather minimum amounts of water applied. For example, we have achieved with a single irrigation as much as 172 bushel per acre of corn, and we are working with population studies, but I find out that I have only managed myself to devote seven percent of my total time to the experiment station since I am not assigned there and my assignments have been primarily in the contract and grant area instead of being able to devote much time in research and to extension.

MR. REEVE: That's why I made the motion. I think we need something of record from this group to carry to both the administrative people of the Extension Services of the two states and also of the two legislatures of the two states to let them understand we think this is a very serious problem and I think with the press and so forth in this subject, I think we have got something to back us up.

MR. COOLEY: Jack, in view of the discussion and particularly the remarks of Guy Gibson, what would you think of an

amendment of the motion that you give endorsement of the efforts that are underway and are being done and continue to push for the development of these crops and studies.

MR. REEVE: My motion was to the Extension Services of these states and this is the Water Management District, which is a different organization entirely.

MR. COOLEY: Fair enough. Kansas ready to vote on the motion?

MR. BENTRUP: Aye.

MR. COOLEY: Kansas votes eye.

MR. BATES: I'd like to hear just exactly what the motion is, may I?

MR. COOLEY: Let's see if the reporter can roll the tape back.

(Reporter read back. ...I would like to request one thing and I guess I'll do it in the form of a motion that this group go on record in requesting the Extension Services of both the state of Colorado and the state of Kansas and they be notified by letter by you as Chairman to request that they bend some effort towards developing of crops that will take less water and other water conservation measures.)

MR. BATES: Colorado votes aye.

MR. COOLEY: Colorado votes aye, so the motion carries.

At this time, I am going to do a little further violence to the agenda of the meeting because of the large number of persons in attendance and now we have got left election of officers and review and adoption of the budget, unfinished business and new

business. I want to go directly to the question of either unfinished business or new business. Is there any unfinished business?

MR. BENTRUP: Mr. Cooley, we have an Operations Committee report yet.

MR. COOLEY: Fine. I think Lane's got it. Good. All right, the operation of John Martin.

MR. HACKETT: Operation report, November First, 1975, to October 31st, 1976. The winter storage season for John Martin Reservoir began on November 1st, 1975, at 12 p. m. with the reservoir being empty since April 12th, 1975. A demand for river flow was made and released at 12:01 a. m. November 1st, 1975, and maintained until 10 a. m. November 19th, 1975. Again on February 17th, 1976, the river flow release was made to satisfy Colorado call and continued until conservation storage release began April 5th, 1976. April 1st, 1976, storage was 10,093 acre-feet. Demand for conservation storage water was made by both states and release began at 8:30 a. m. on April 5th, 1976. This initial release of a thousand cfs, Colorado 600 and Kansas 400, was made by increments of 250 cfs on an hourly basis in cooperation with the USGS to measure and take sediment samples between gate changing and changes of the river flow below John Martin to Lamar. Conservation water and storage on this initial release date was 10,110 acre-feet. Several gate changes during this 5½-day run were necessary to coincide with

the USGS corrections at the station below John Martin. The correlation of the Colorado diversions and downriver measuring stations was very poor on the total release. The reservoir became empty at 6 p.m. April 10th, 1976. The river was then administered according to Colorado priority system. Sporadic storms during May, June and July, created some tributary inflows below John Martin, and in a couple of instances, damaged some canal structures in Water^{Dist.} 67. Inflows above John Martin were not sufficient to justify summer storage. August 2nd, 1976, the gates were closed at 7:30 p.m. and simultaneously, a thousand second-foot release was made to satisfy Colorado 600 and Kansas 400 cfs demands. ~~This inflow was heavy~~--This inflow developed from heavy rain storms on both the Purgatory and Arkansas; however, the estimated inflow at the Las Animas station never occurred. A peak storage of about 2100 acre-feet was obtained at the reservoir. The reservoir was emptied at 9:30 a.m. August 6th, 1976. The gates remained open and the river was administered under the Colorado priority system until winter storage began midnight October 31st, 1976. No river flow demands were made and storage to date is 3500 acre-feet. Respectfully submitted for the Operations Committee, Harry Bates, Jr., and Carl Bentrup.

MR. COOLEY: You have heard the Operations Report, is there any discussion by any member of the Compact Administration?

MR. SPARKS: Did Kansas ever get its 400 feet?

MR. BENTRUP: I have a little bit to say about that. Kansas

has been disappointed in delivery of John Martin water to the state line. As you know, we are entitled to up to 40 percent of stored water and this is to be measured at the state line. For example, this last April, there was 10,703 acre-feet released; Kansas demanded 4,284; it received 1,854, less than half of the water it was entitled to. This ordinarily isn't a problem in period of more storage or normal rainfall or normal riverflow. The riverflows in those normal periods takes care of the loss of transmission to the state line, but in dry periods, it does not, and we feel Kansas is taking the riverflow loss. Colorado is not assuming it, and our water is to be measured at the state line and I think we can certainly improve on the delivery of this water to Kansas. And August delivery was sort of a similar situation, but there was some riverflow at the same time and we do not have the exact figures on that, but it's these small storage amounts where Kansas is being shorted a good part of its water and we would like to see some improvement.

MR. COOLEY: Did that answer your question, Mr. Sparks.

MR. SPARKS: I don't wish to pursue it any further.

MR. COOLEY: I expect we'd better continue this discussion some.

MR. HACKETT: I would like, as operator of the gates and probably responsible, or being responsible for Kansas delivery from John Martin, that I could produce the USGS average flows for the river including John Martin Reservoir and when the thing

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finalled out, that I was working with a lot less water than I thought I was, due to the fact that there was beaver dams and sedimentation and so forth at our new measuring station below John Martin Reservoir. I am ^{not} making alibis, but the records from USGS measurements and figures will verify this and if anybody would care to look at them, but when I think I am working with a thousand second-feet of water and I try to administer Colorado ditches to deliver 400 to Kansas, but when it gets down there and it isn't there, and you go to look back, in the meantime you get measurement, it explains very well why, that in a 5-day run, you are out of business. Kansas does come up short.

MR. COOLEY: Pardon me, you lost me. I am from out of here. The last part of the statement, what is it that causes you to be short, that the gauging is wrong--the last part of your statement, I just lost it completely.

MR. HACKETT: Yes, sir. The initial order issued to the Resident Engineer at John Martin was for a thousand second-feet of water and they set their gates accordingly for that release and we think we are going under the assumption that there is a thousand cfs being released there, but with the hydrologist coming in and measuring maybe 8 or 900, I am automatically short 200 feet of water and by the time we find this out, Kansas has already received that shortage at the stateline.

MR. COOLEY: Or hasn't received it.

MR. BENTRUP: We received a shortage.

MR. HACKETT: At the same time, I'd like to verify the fact that Colorado did not draw a full 60 percent of their water that they are entitled to, although they are not entitled to it as long as Kansas is short, but we didn't. Colorado ditches were not overdrawing. If anybody in the room is thinking that, I will verify that with the flow charts and so forth also.

MR. COOLEY: Would it be appropriate to draw Mr. Fuller and Mr. Smith from the Corps of Engineers at the John Martin Reservoir into the discussion at this point?

MR. HACKETT: No, sir, Mr. Fuller was on the job at the time; Mr. Smith wasn't. If they are here I think Mr. Fuller could verify the fact that he was getting changes both from the USGS hydrologist, which they were working hard up there and the other stations to get us straightened out and I was making changes at the same time to try to pick up this flow that I knew was short by the time it got here at Lamar.

MR. BENTRUP: Frank, the problem is that with a dry river and a small amount of water, there is no way Colorado ditches can receive their 60 percent and Kansas receive its 40 percent at the stateline. There just isn't that much water, so Colorado ditches are going to have to be adjusted to deliver this water to the stateline. This isn't the first time it's happened; it's rather futile, seems like, to make a complaint, but we would like to see some efforts to see this corrected. It's a similar situation,

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we have a similar situation, if you object to my visiting you for about 4 or 5 days while this water is released?

MR. HACKETT: No, sir. No, sir, you or any other Kansas people. Mr. Corrigan, Water Commissioner at Garden City has done that in the past with his hydros and I think we come out pretty fair shape. I don't know how Kansas come out, but Colorado wasn't taking any water that we could find with just the hydrographers there measuring Colorado ditches.

MR. BENTRUP: We don't question your measurements at all; it's just there isn't enough water for both states to get their share of the water.

MR. HACKETT: The last three years, definitely true.

MR. BENTRUP: No question of measurements, no quarrel there.

MR. COOLEY: Is there any further discussion of this?

MR. CORRIGAN: Howard Corrigan. Could I interject a statement here, this control station that was built, I have never seen it, it wasn't that control out of releases out of John Martin Reservoir?

MR. HACKETT: Immediately below, and we are still having problems with beaver dams. You remove them and they are back in the morning.

MR. SPARKS: Can't we eradicate the beavers? What was the town of the beaver episode, was it Dove Creek, Colorado, wanted to eradicate and called the Division of Wildlife to clear the beavers

out of his irrigation ditch. He called them again, and called them again and finally went out and shot 6 of them and crated them up in a crate, ungutted, and shipped the crate to Harry Woodward, Director of Wildlife. It didn't go over very well either.

MR. COOLEY: He got a lot of publicity on the thing.

MR. HACKETT: That's not only true of that particular station, we have been having difficulty all up at all the Compact measuring stations within the last two or three years that we haven't experienced in future years, but it's something that's there and they seem to like these measuring sites or just below them. I don't know why, but that's where they build.

MR. SPARKS: Of course, we can get them removed, the problem has been that beaver pelts are not worth anything any more, so nobody wants to trap them, but the Division of Wildlife will trap beaver and relocate them, so I suggest we made a request to the Division of Wildlife to get rid of the damn beaver.

MR. HACKETT: I think the USGS has beat you to it.

MR. SPARKS: A .22 rifle will do it.

MR. BATES: I was authorized to shoot the beaver providing that I let them know where they were when I done it. There's no problem there.

MR. COOLEY: I take it that the amelioration of this is going to be in two directions, one more efforts at controlling the beaver, and secondly, Carl, that Kansas will, this spring,

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more actively participate with Colorado in the administration of the river below John Martin in an effort to find out where the water is going.

MR. BENTRUP: Yes.

MR. SPARKS: We ask only that Kansas advise us when the Kansas patrol is going to take place.

MR. COOLEY: I guess that sounds fair enough. Is there any other comments? All right. I think that completes the Committee reports. I believe there is no Engineering report. Before this Commission proceeds to its housekeeping, there are a number of representatives of water users, both in Colorado and some in Kansas here this afternoon. We'd be pleased to hear from any person. Mr. Higbee, do you have anything you wish to address to the Compact Administration this afternoon? You have been very courteous in the past and we want to acknowledge that.

MR. HIGBEE: Thank you. Sitting back here and I'm just having a little dream. You know, we used to look up at the clouds and pretty good sized clouds and we would pray they would come over and drop some water, but those of us on the eastern end now, we have to have one other prayer and that's that Mr. Jesse won't stop it up in Pueblo and so we'll take our responsibility by extending our prayer limitations, but at the same time, Hugo is short of water which is outside of the area. The whole valley has been short of water. The drought or the desert as I understand from a conversation with you gentlemen from Kansas, is now

extended over to Dodge City, and so they had a meeting last week, I believe it was, or the week before, down in Oklahoma City; their wells are going dry, the Arkansas Valley is being pumped out and the Engineer says we shouldn't ask for more water. Basically, you are supposed to pump it, but if anybody's ever gotten a pumping permit out of the State Engineer's office, I think that I'd like to know who the hell they are, just frankly speaking, so then you wonder why you don't get any water down there, well, if you go down, right along the Kansas line, there is 25 additional wells put in or will be put in in the next year and so I don't know whether you are ever going to get any water to the Kansas line again or not, but anyway, I would like to encourage the water resources group, both in Kansas and in Colorado, to make some effort and probably extend to the boys that get paid for this, like Mr. Myers, and so forth, to come up with some constructive thing with respect to where you can get the water and how much it will cost, instead of saying, "Oh, we have just got to cut down on the tamarac and other sores," because I don't think there is very much water wasted. I hear so damn much about wasting water and so on and so forth, that I don't think people have ever been into an area where they do waste water. You can't waste water if you don't get it. You can't waste any of that 2,000 or 4,000, whatever it was, acre-feet of water if you never get it; but yet, we are being accused every day of wasting water, wasting water. If

water runs out of one field, it will get into the underground and into the canal system and go on down the river, so I would like to encourage the Compact, even though they may not think it's their responsibility, but also the other group, I was up in Montana a year ago about now, in which they are using some funds from the taxation on coal and so forth to actually build back in this water system, in some instances. In other words, this fund they have got is to replace it, an organization specifically set up to replace some of the natural resources that can be replaced. One of them up there in Montana is water, but anyway, I would certainly encourage, even our Governor in the state of Colorado is a little bit negative with respect that we can't get any more water, so I would like to see you folks, when you get into your business session, go strongly on a resolution to see if there isn't some way to get some water to the area so I won't have to dry up and move out. In fact, we are doing a little talk about seceding from the state of Colorado if we can't get a little more water down in this part of the country; maybe the state would secede. On that basis, I have enjoyed meeting with you. I know you gentlemen have a great project ahead and everybody's for you as near as I can tell, but at the same time, I sure don't like this negative discussion with respect to these guys that--I mean like I used to be with the government. You have to provide this and you have to provide that; the records indicate according to one hydrologist that

they illegally stored 5500 acre-feet of water in the Pueblo Dam, but all they said to me when I was discussing it, bring your figures and prove it, but it's interesting that one individual has to keep proving something that the guys get paid for making a fair analysis on it. Well, anyway, I just want to encourage the good work that you gentlemen are doing and keep in mind that we need some more water down in this part of the country as well as other places. But I think it affects more than just southeastern Colorado and one criteria I'd like to see you use, see if the last ditch in the system gets any water, and if they don't, there is something wrong. Thank you very much.

MR. COOLEY: Thank you, Mr. Higbee, appreciate your being here. Is there any unfinished business? Any other unfinished business before the Compact Administration? Any new business? We are now going to proceed to the housekeeping details, the election and adoption of budget. Before we do, I want to again thank you, Mr. Gene Eastin from Congressman Sebelius' office for coming here and we hope to see you again, Mr. Eastin. Arch Gibson of Dave Evan's office will be here at our next annual meeting, I am relatively confident. He's the one, as I said, that was between offices and for those of you who have been so kind in attendance, what we are doing now is going to be just 15 minutes' worth of housekeeping. We are delighted to have you stay; on the other hand, we are actually through with the water part of the meeting. Are there nominations for Vice Chairman?

MR. SPARKS: Mr. Chairman, I move that the present officers should be re-elected and that the present Committees be reappointed.

MR. GIBSON: Mr. Chairman, I second that motion.

MR. COOLEY: Well, the railroad has come to the Arkansas River Valley. There's been a motion that's been made and seconded. Is Kansas ready to vote on that matter?

MR. BENTRUP: Kansas votes yes.

MR. COOLEY: Kansas votes yes. Colorado?

MR. BATES: Aye.

MR. COOLEY: Colorado votes yes. We have disposed of that election in short order. We now turn to the adoption of the budget which we discussed for about a half an hour before the noon hour. Jack Reeve.

MR. REEVE: Mr. Chairman.

MR. COOLEY: Yes, sir.

MR. REEVE: I will make the motion that the 5 changes in the budget that were discussed before noon be placed in the budget as amended, or whatever you want to call it. Number 1 would be increasing--

MR. COOLEY: Please point out the budget year.

MR. REEVE: This is working a year and a half from now; this is July 1, 1978 to June 30, 1979, and this is really playing in the dark.

MR. COOLEY: O. K. Proceed.

MR. REEVE: Number 1, secretary's salary to be increased from \$1800 to \$2400.

MR. COOLEY: Per year.

MR. REEVE: Per year. Number 2, adding the flooding route study item of \$5,000 to the budget that was voted on this morning, which would be a reimbursement probably of other entities. Number 3, these next 3 are only bookkeeping items; that's to change the items printing and official publications into one item, and making the monies one item. The next one would be taking the travel and meeting along with the investigation and inspection item and making them one item. Number 4, would be to change the typing and mailing and the office supplies items into a single item of office expenses and combining their budgeted amounts. In addition to these figures, it has been pointed out that the last item in expenses is called, "contingency" an item of \$2,000--by the way, this is the first time that the Board has had a contingency fund--is probably in the wrong place on the budget. The only request I would have to make on that line is that an accountant could be consulted as to where the item of \$2,000 for a contingency be placed in this budget. Along with that secretary's salary would be a required change in the Social Security amount to whatever it took to cover his raise.

MR. COOLEY: All right. Do you propose the 6 amendments to the budget and the adoption of the budget as amended with the 6 amendments?

MR. REEVE: I will so move.

MR. COOLEY: Is there a second?

MR. BATES: Second the motion.

MR. COOLEY: Motion's been made and seconded.

MR. BENTRUP: Kansas votes aye.

MR. COOLEY: Kansas votes aye. Colorado?

MR. BATES: Aye.

MR. COOLEY: Colorado votes aye. The motion is the budget as amended is adopted. The item not on the agenda, but I think deserving of attention, is the fact that the Trinidad Reservoir has been completed and it appears to me that it would be very much in order--I feel it would in any event--if we were to get down to have a meeting with a half a day in the field and another half-day work session at the city of Trinidad. How do you feel about that? Mr. Gibson, I'll just throw it to you for one minute.

MR. GIBSON: I think it would be--this half work day would be with an appropriate representative of the Trinidad Reservoir.

MR. COOLEY: Oh, yes.

MR. GIBSON: I would so move that the time be set for this.

MR. COOLEY: All right. I'll keep that motion in mind. How do you feel about it in Colorado?

MR. SPARKS: What are we talking about?

MR. COOLEY: I'd think April or May, whichever you felt would be the appropriate month.

MR. BATES: April meeting in Trinidad.

MR. SPARKS: All right, as far as I am concerned.

MR. BATES: April.

MR. COOLEY: April, would a Friday afternoon, Friday noon and a Saturday morning business session be better days of the week for you people? How does Friday afternoon visit the structure and Saturday morning work session appeal to you?

MR. GIBSON: If we can get those Federal guys out on Saturday morning.

MR. COOLEY: We can sure get them on a Friday afternoon for a while. I think the ones that are directly interested will stay there on Saturday.

MR. GIBSON: I hope the Federals forgive us. It came from a Kansas civil servant.

MR. REEVE: We just let them leave on Sunday.

MR. COOLEY: How does the 22nd of April look?

MR. BATES: Friday the 22nd?

MR. COOLEY: Friday the 22nd.

MR. BATES: Fine with me.

MR. COOLEY: Mr. Gibson, would you tentatively like to-- would you like to amend your motion so that the tentative dates, unless they are changed for some good reason, to be Friday afternoon the 22nd of April and Saturday morning the 23rd?

MR. GIBSON: All right with me.

MR. COOLEY: He's accepted the amendment. Is there a

second to Mr. Gibson's motion?

MR. SPARKS: I'll second it.

MR. COOLEY: Kansas ready to vote?

MR. REEVE: Yes.

MR. COOLEY: Kansas votes yes. Colorado?

MR. TEMPLE: Aye.

MR. COOLEY: Colorado votes aye. Fine. Then that will be the next meeting of the Commission, except for those meetings called in accordance with the bylaws for any emergency matters. Does anyone on the Compact have anything else to bring before this meeting at this time?

MR. SPARKS: Well, on the meeting, Mr. Chairman, Trinidad, we want to keep in mind that project is being operated by the Purgatory Water Conservancy District and therefore they should be participants in whatever program we have.

MR. COOLEY: You bet. Lane, would you make it a special point within the next week to have communication, both by telephone and a follow-up letter, with that Conservancy District naming those dates?

MR. HACKETT: Sure.

MR. TEMPLE: Mr. Chairman, maybe the secretary can tell us, but I think that the appointments for the Board are probably-- I think they are in April, so there may be some changes on this Compact before that next meeting.

MR. COOLEY: That might be a great improvement on the

Colorado side.

MR. TEMPLE: I am not sure there aren't appointments in both states.

MR. HACKETT: In my secretary's report, probably it doesn't need to be read into the record today, but it's mentioned that the Board members' terms for Colorado expire in August 16, 1977, and the Kansas Board members' terms expire June 7, 1977, so you will all be around in April.

MR. COOLEY: Yes.

MR. SPARKS: That brings up a question, what's the politics of the two Colorado Commissioners?

MR. TEMPLE: Both opposite the Governor.

MR. SPARKS: Sorry about that.

MR. TEMPLE: What's the politics of the Chairman?

MR. COOLEY: He doesn't have any politics at all; I'm sure Jerry Ford didn't ask. Larry, your appointment is by the Compact itself.

MR. SPARKS: By the Compact.

MR. COOLEY: And you're not up. I think there ought to be some action on the part of the Compact through you to communicate to the Governor's office about the service of the present Colorado members of the Compact and after all, the administration of the river is not generally a political matter.

MR. SPARKS: Not generally, but it always has been.

MR. COOLEY: Well, why don't you do what you can?

MR. SPARKS: Well, I will, assuming that the Governor consults with me.

MR. COOLEY: I don't think we can or should press further than that, Larry. I think any other action would be more or less inappropriate, but I do think there ought to be some effort made to communicate this.

MR. SPARKS: I think this would largely depend on the attitude of the people down here, whatever the feeling is down here, they should communicate with the Governor.

MR. COOLEY: Mr. Miles, I trust those words were not lost on you. Mr. Gibson, you would stay on in any event, would you not?

MR. GIBSON: If I remain in my present capacity as Chief Engineer of the State Board of Agriculture.

MR. COOLEY: I don't want to breach the bounds of good taste, but it seems to me that some representation by you to the Governor of Kansas about the work of the Kansas representatives is appropriate and I think that whatever endorsement can fittingly be made, should be made and certainly would be made by me if that were to accomplish anything, and I don't want to go further because I realize I am on the edge of good taste right now, but I think we can go that far.

MR. REEVE: Mr. Cooley, would it be appropriate for us to make a recommendation on behalf of our organization?

MR. COOLEY: I think it would. I think that it would be

entirely appropriate for a letter to go to the Governor of Colorado as to the work that the present representatives from Colorado and to the Governor of Kansas as to the representatives that he had on there as far as you were concerned. In short, to get the idea of diligence, we'd be happy to do so. I think it would be appropriate and I don't think it would hurt.

MR. SPARKS: It's always appropriate to make their desires known to the Governor, whatever they may be.

MR. COOLEY: Jim, without wanting or even hinting that this thing should be lobbied, because that isn't my intent at all, if you would at least make known what it is you are doing to other substantial water users, I think it would be appropriate.

MR. STRAMLER: Fine. Be happy to.

MR. COOLEY: Is there anything else to come before this Compact Administration?

MR. HELTON: We'll complete a draft of the annual report and it will be sent out. It's not done now but it should be by the first of the year.

MR. COOLEY: I'm going to make an informal report to the President consistent with my instructions and that will be not to exceed two paragraphs and I'll send the members of the Compact Administration a copy of that.

MR. HELTON: I was talking about this, Mr. Cooley.

MR. COOLEY: I understand what you are talking about, under my instructions, I am to report annually and I take it to

be different from the principal report and I intend to carry those out. There being nothing else to come before this Compact Administration, I declare the meeting adjourned.

(Adjourned at 2:40 p. m.)

CERTIFICATE OF NOTARY

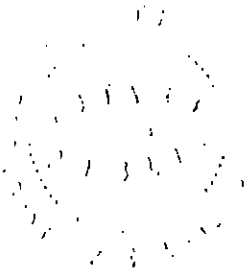
STATE OF COLORADO)
County of Otero) ss

I, Judith E. Stjernholm, Notary Public in and for the State of Colorado, do hereby certify:

That on Tuesday, the 14th day of December, 1976, at the Cow Palace Inn, Lamar, Colorado, I reported the annual meeting of the Arkansas River Compact Administration, beginning at the hour of 9:45 a. m. and ending at the hour of 2:40 p.m.

That on such date, said meeting was taken by me in shorthand and thereafter reduced to typewriting by me and the foregoing pages, both inclusive and including this certificate, numbered 1 to 86, contain a full, true, and correct transcription of the proceedings of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 31st day of December, 1976.



Judith E. Stjernholm
NOTARY PUBLIC, La Junta, Colorado

My commission expires February 20, 1978.

RICHARD D. LAMM
Governor



C. J. KUIPER
State Engineer

DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES
ROBERT W. JESSE
IRRIGATION DIVISION ENGINEER
1906 W. NORTHERN AVENUE
PUEBLO, COLORADO 81004
OFFICE: 542-3368 HOME: 545-2873

November 23, 1976

Mr. Frank G. Cooley
Chairman, Arkansas River
Compact Administration
P.O. Box 98
Meeker, Colorado 81641

Re: Cover Letter for Flood of
8-1-76 to Compact Commission

Dear Sir:

As I remember our meeting of September 1976 concerning the occurrence at Pueblo Reservoir on the 1st of August, I told you I would make a report to the Commission in December.

If it is agreeable with you, a thought I had may save me some time and make a better presentation for the Compact. That is, to attach to and present with the minutes as taken by your secretary a brief summary of what we did to the hydrographs we presented in September. I have not seen these minutes but would not hesitate to say they are complete and contain not only my position but also that of the downstream people who were there. All this information will be available to the Geological Survey if they plan some kind of study.

I hope this meets with your approval. If you disagree, please advise.

Very truly yours,


Robert W. Jesse
Division Engineer

RWJ/lm

cc: Joe Marcotte
Lane Hackett
Duane Helton
Dick Fidler



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES
ROBERT W. JESSE
IRRIGATION DIVISION ENGINEER
1906 W. NORTHERN AVENUE
PUEBLO, COLORADO 81004
OFFICE: 542-3368 HOME: 545-2873

December 13, 1976

To: Arkansas Compact Commission
From: R. W. Jesse
Subject: Event of August 1, 1976

Attached is a copy of the hydrographs and a part of the minutes of the meeting held in Pueblo in September, 1976, concerning the storage in Pueblo Reservoir (all of the minutes were deleted that did not relate to the event).

We restate our original conclusion that the peak on the Fountain and the peak at Portland would not have arrived at Avondale at the same time, as the two events occurred simultaneously and are separated by more than 30 river miles.

The peak at Portland would have followed the Fountain peak in time if Pueblo Reservoir had not been there, and would have been substantially within the capacities of the intervening ditches. In order for the Portland peak to have been superimposed on any of the peaks, the times of travel would have had to exceed that of 1965, a much larger flood. In view of these facts, coupled with the fact that John Martin was closed and later discharged in excess of 1000 cfs, some of the "tail end" of this event was passed to District 67. That probably would not have been if Pueblo had not been there or the discharge of John Martin kept to 1,000 cfs.

We are eager to utilize any developed information and welcome any constructive criticism, and if anyone using this or any set of facts can come to any substantially different conclusion, we will be the first to acknowledge it and use it in the future decision-making process.

Our assets are limited, but we have been using every means available to us to improve the accuracy of our reporting and measuring systems, and we will cooperate with anyone to any extent that is within our power.

Mr. Jesse presented compiled hydrographs illustrating the times and flows at the Portland measuring station above Pueblo Reservoir, as well as the down river stations, 142 miles by reaches, to John Martin Reservoir. He indicated how the events above Pueblo were far enough up stream that down river canals would have the capacity to divert the flood waters, as though Pueblo Reservoir had not been constructed, and as John Martin Reservoir gates were closed for storage, the priority rights below John Martin Reservoir were not recognized. The hydrographs were analyzed for peak flows through each reach and station as follows: Aug. 2, Portland-12,000 cfs, Fountain-4,000; Aug. 3, Avondale-7,000, Nepesta-9,000, Catlin Dam-1,600 to 2,000, La Junta-7,700; and Aug. 4, Las Animas-3,800 cfs. Mr. Cooley inquired if there was any way to relate the peak flows and the quantity of water against the capacities of down stream canals to divert those peaks and quantities of water. Mr. Jesse replied that the continuation of a flood is a science of its own, and is a matter of judgment to some extent, but obviously, he felt they could. The peaks would decrease in magnitude and increase the base lift due to the tributary inflows and canal diversions down stream.

A considerable number of questions and discussions were had with regard to the amount of water retained in Pueblo Reservoir and the effects of flows to ownership of this water to down stream priorities, including John Martin Reservoir.

(Recess for lunch)

September 14, 1976 1:15 PM

Mr. Cooley requested suggestions for the afternoon agenda other than the wrap up of Mr. Jesse's presentation. It was generally agreed that the Amity-Great Plains Winter Storage Proposal in John Martin Reservoir and the operating criteria for the same, as assigned to this special committee by the Administration during the Aspen meeting of August 14, 1976, was the main objective left to be considered.

It was suggested by Mr. Cooley that some time be spent outlining the needs with respect to the Pueblo event, such as measuring stations, etc.

Mr. Jesse discussed the need of more cross section stations to collect data during storm activity, in conjunction with better station sights, and improvement of communications therefrom. Also, he discussed his intention to establish a criteria and a list of actions to be taken in various and similar conditions for future reference. He stated that with the information which was available at the time and with postdate analyses, he believed that proper administrative action was taken during the April 1st storm.

Ted Zorich commented on the advisability of milking all the information from this storage and flood events in conjunction with other agencies to assist in verifying if the same action in similar circumstances should be applied for future use.

William Howland stated that he was not convinced that the safe channel capacity was only 5,000 cfs below Pueblo, and cited the need for further study and research. He also expressed the need to review the diversion capacities against the specific priorities of the canals between Pueblo and John Martin Reservoirs as this relates very much to the water received at John Martin.

Duane Helton remarked that it appeared to him that more consultation between the Compact secretary and the Division Engineer's office might be helpful in such events.

In response to what action would be taken should a major flood down the Arkansas be approaching Canon City now, Mr. Jesse explained in detail the administrative, communications, and all functions performed in such an event.

Leo Pollart re-emphasized the importance of upbuilding stream flow measuring stations and communications therefrom, citing the loss of water to W.D. No. 67 and/or John Martin Reservoir in past events due to faulty information and to the administrative action taken, such action based on that kind of information and situations.

Mr. Howland received the Chairman's permission to read into the record two portions of the Arkansas River Compact regulations as follows: Article IV-D: (This Compact is not to impede or prevent future beneficial developments of the Arkansas River Basin in Colorado and Kansas by Federal or State agencies, by private enterprise, or by combinations thereof, which may involve construction of dams, reservoirs, and other works for the purpose of water utilization and control, as well as the improved or prolonged functioning of existing works: Provided, that the waters of the Arkansas River, as defined in Article III, shall not be materially depleted in usable quantity or availability for use to the water users in Colorado and Kansas under this Compact by such future development or construction.) Mr. Howland remarked that he thought it well applied to the Pueblo Reservoir. Article VII-A: (Article VII-A: (Each State shall be subject to the terms of this Compact. Where the name of the State or the term "State" is used in this Compact, these shall be construed to include any person or entity of any nature whatsoever using, claiming or in any manner asserting any right to the use of the waters of the Arkansas River under the authority of the State.) Mr. Howland reiterated by saying that to me that is what we are discussing today.

Carl Bentrup asked Robert Jesse that if, under large river flows of which Kansas could be entitled a portion under the Compact, he (Bentrup) had the authority to the ditch diversion maintaining their entitled flows above John Martin Reservoir. Mr. Jesse replied, "Yes, if I understand your question correctly."

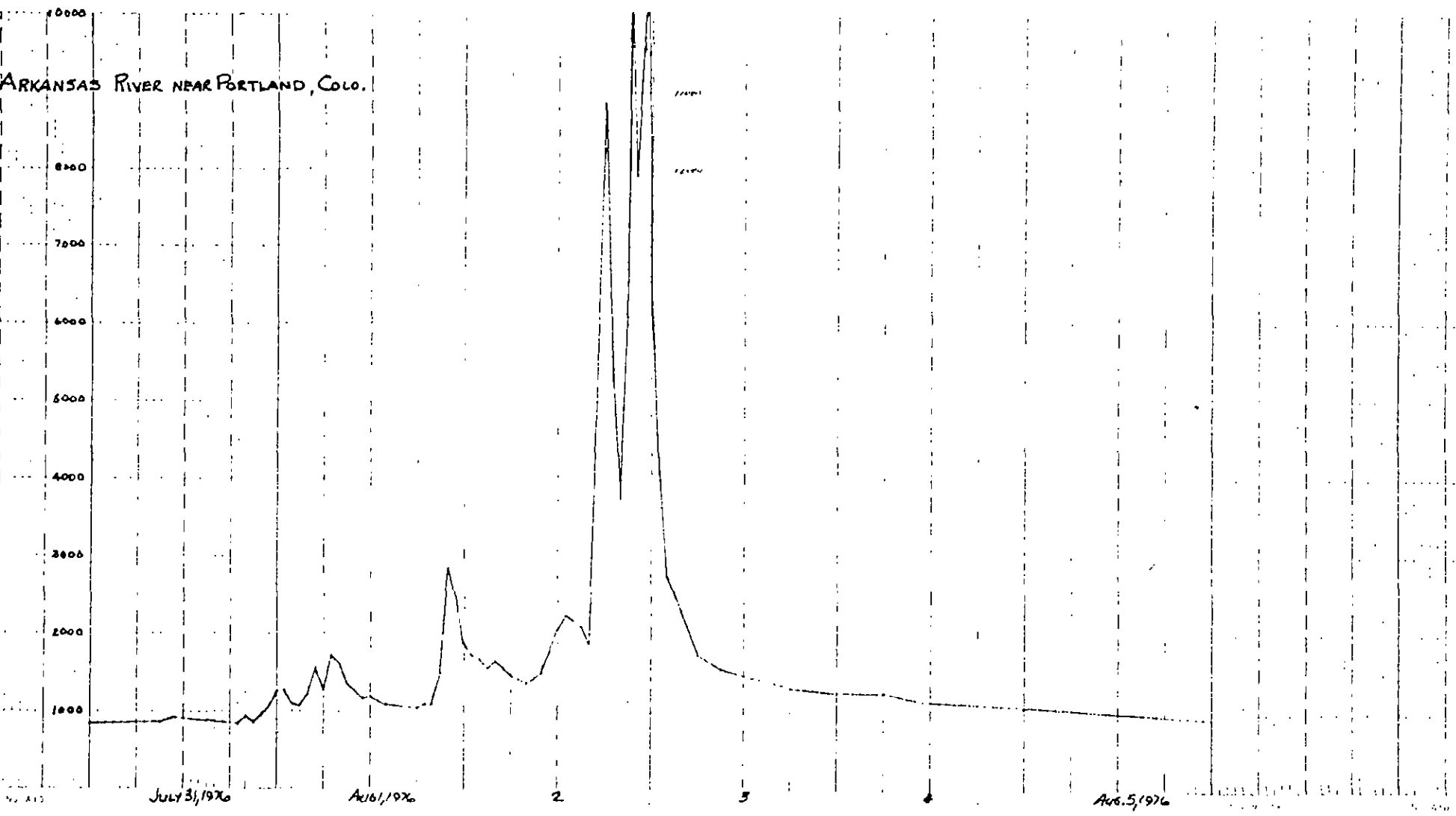
Mr. Bentrup asked if there would be some way of incorporating into the future guidelines and operations having some Federal or other disinterested agency to be responsible for the determination of Compact water. Robert Jesse replied that Colorado would not want to relinquish its administration of the river but would be happy to consult and work with anyone along those lines.

Mr. Cooley suggested that an analysis be made by all of the agencies available of past flood routings including the August 1 event for future reference in the operation of Pueblo Reservoir in similar situations. It was concluded that a short range study and plan of operating criteria, making available long range routing criteria recommendations, be drawn up by the Division Engineer and other State and Federal agencies cooperating. It was requested that the study be presented as soon as possible.

Mr. Cooley acknowledged Mr. Jesse's remarkable presentation and extended the appreciation of others concerned.

After a discussion of several other matters, the meeting adjourned.

ARKANSAS RIVER NEAR PORTLAND, COLO.



ARKANSAS RIVER
BELOW
PUEBLO RESERVOIR

10000
9000
8000
7000
6000
5000
4000
3000
2000
1000

JUN 31

JUL 31

2

3

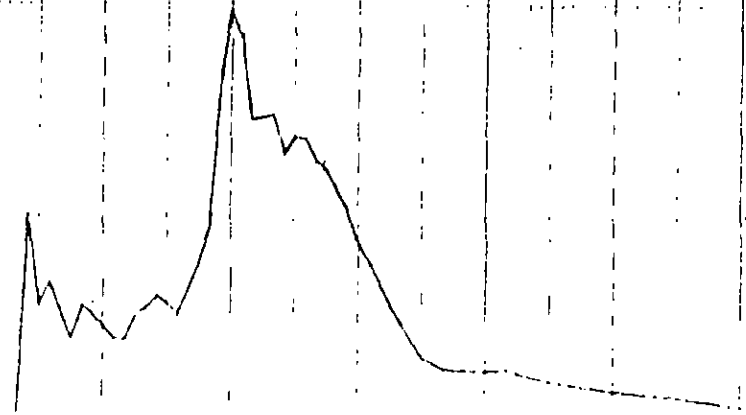
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AUG 31

5

FOUNTAIN RIVER
&
PUEBLO

8000
7000
6000
5000
4000
3000
2000
1000



ARKANSAS RIVER
NEAR
AVONDALE

8000
7000
6000
5000
4000
3000
2000
1000

JULY 31

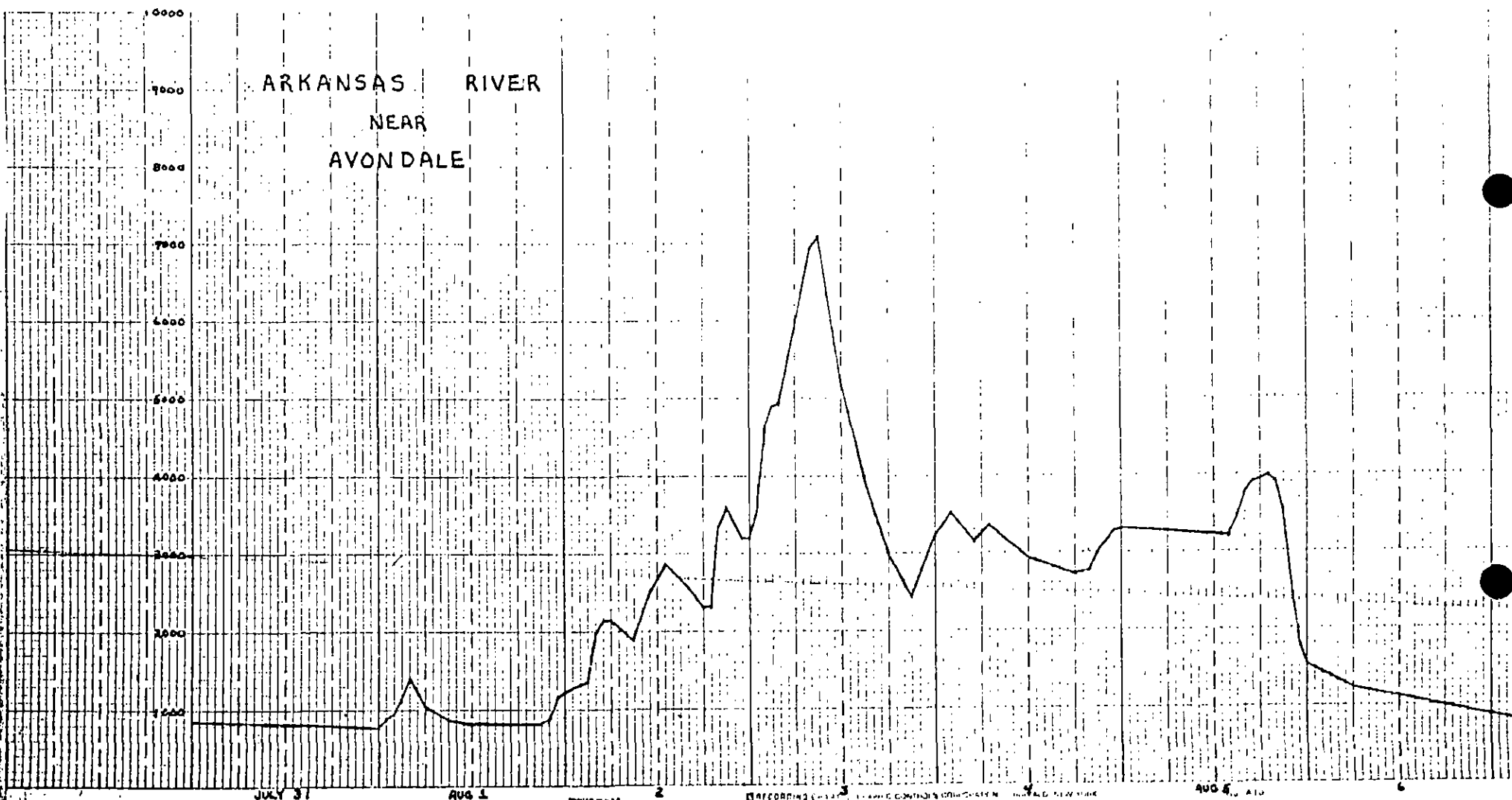
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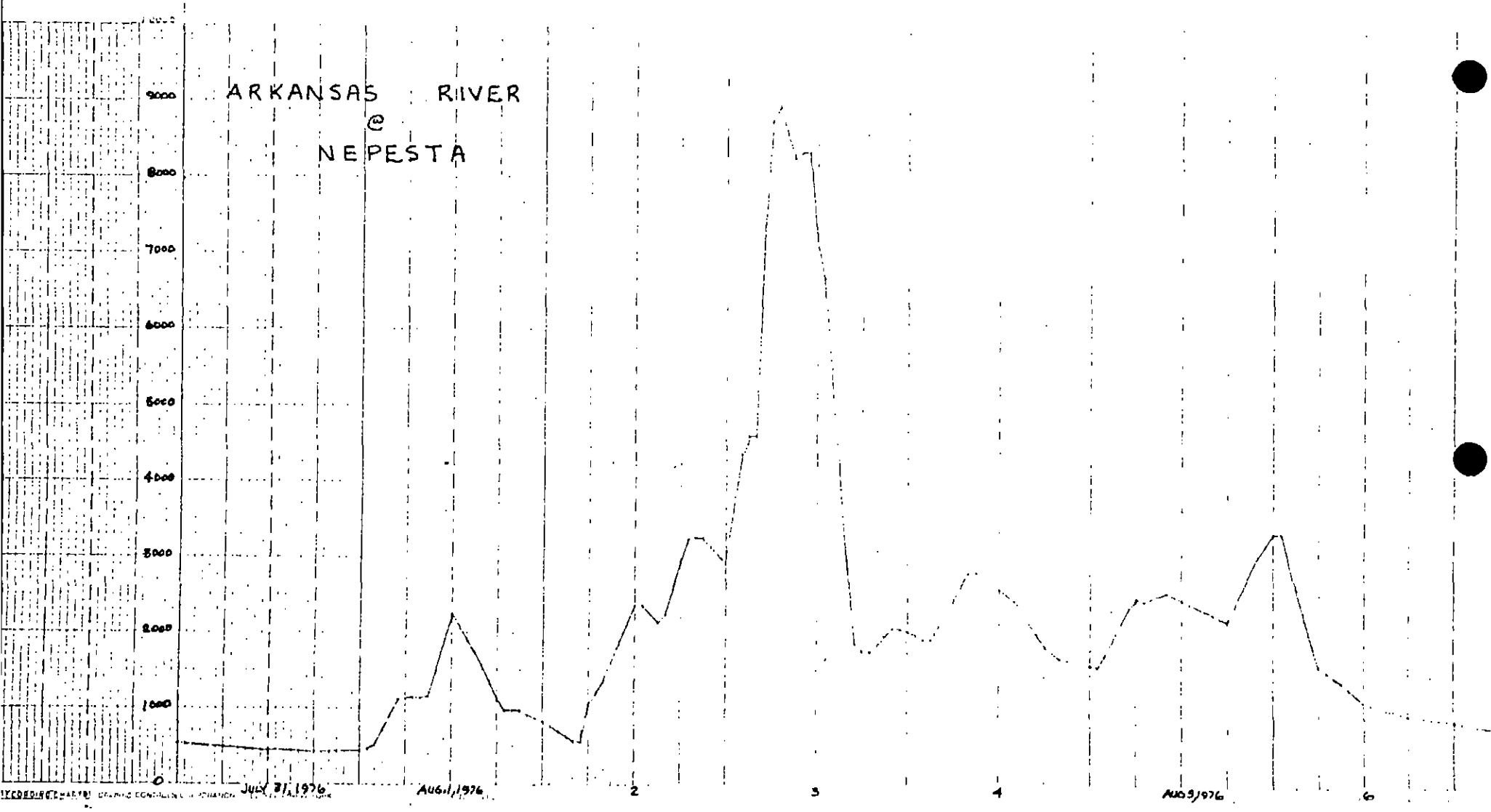
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AUG 5

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ARKANSAS RIVER
@
NEPESTA



July 31, 1976

Aug 1, 1976

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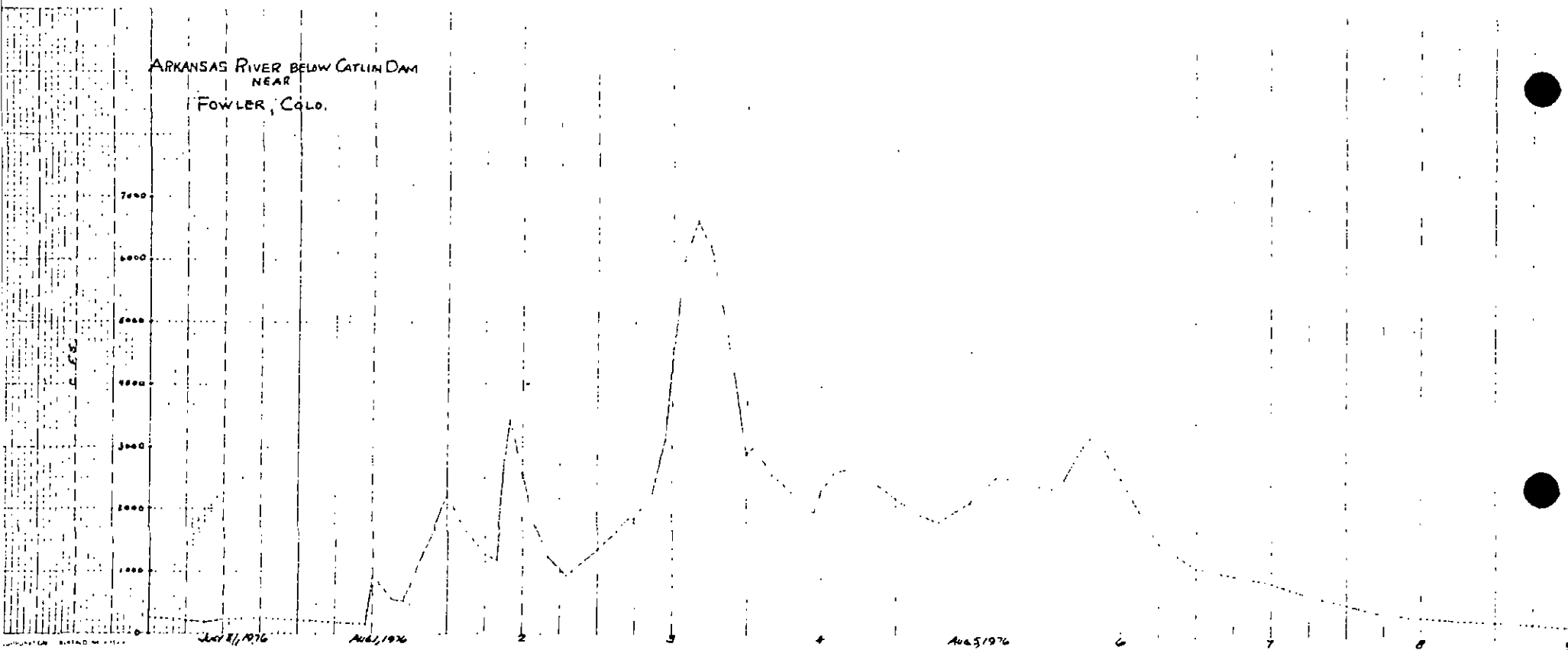
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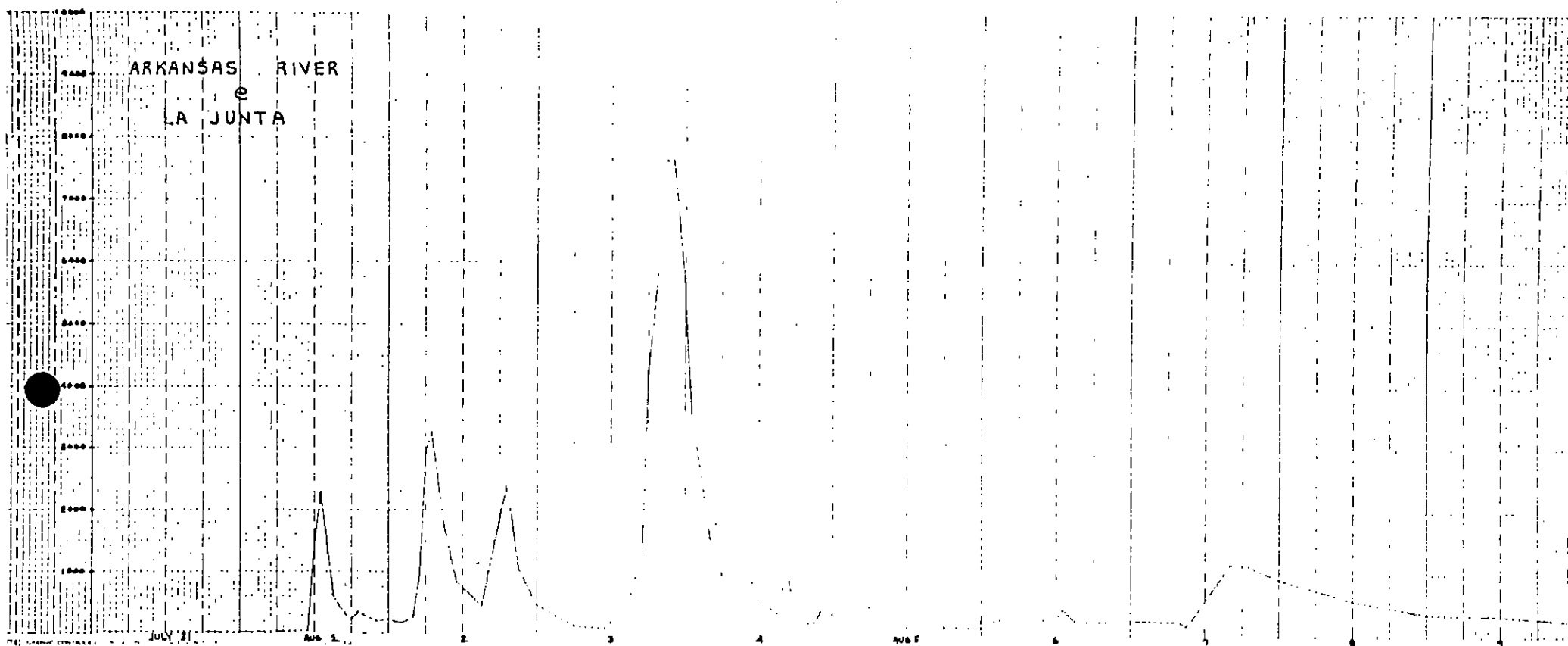
Aug 3, 1976

6

ARKANSAS RIVER BELOW CATLIN DAM
NEAR
FOWLER, COLO.



ARKANSAS RIVER
LA JUNTA



1500
1000
500
0
AUG 1 2 3 4 5 6 7 8

ARKANSAS RIVER
BELOW
JOHN MARTIN

1000
500
0

1000
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0

0

AUG 1

2

3

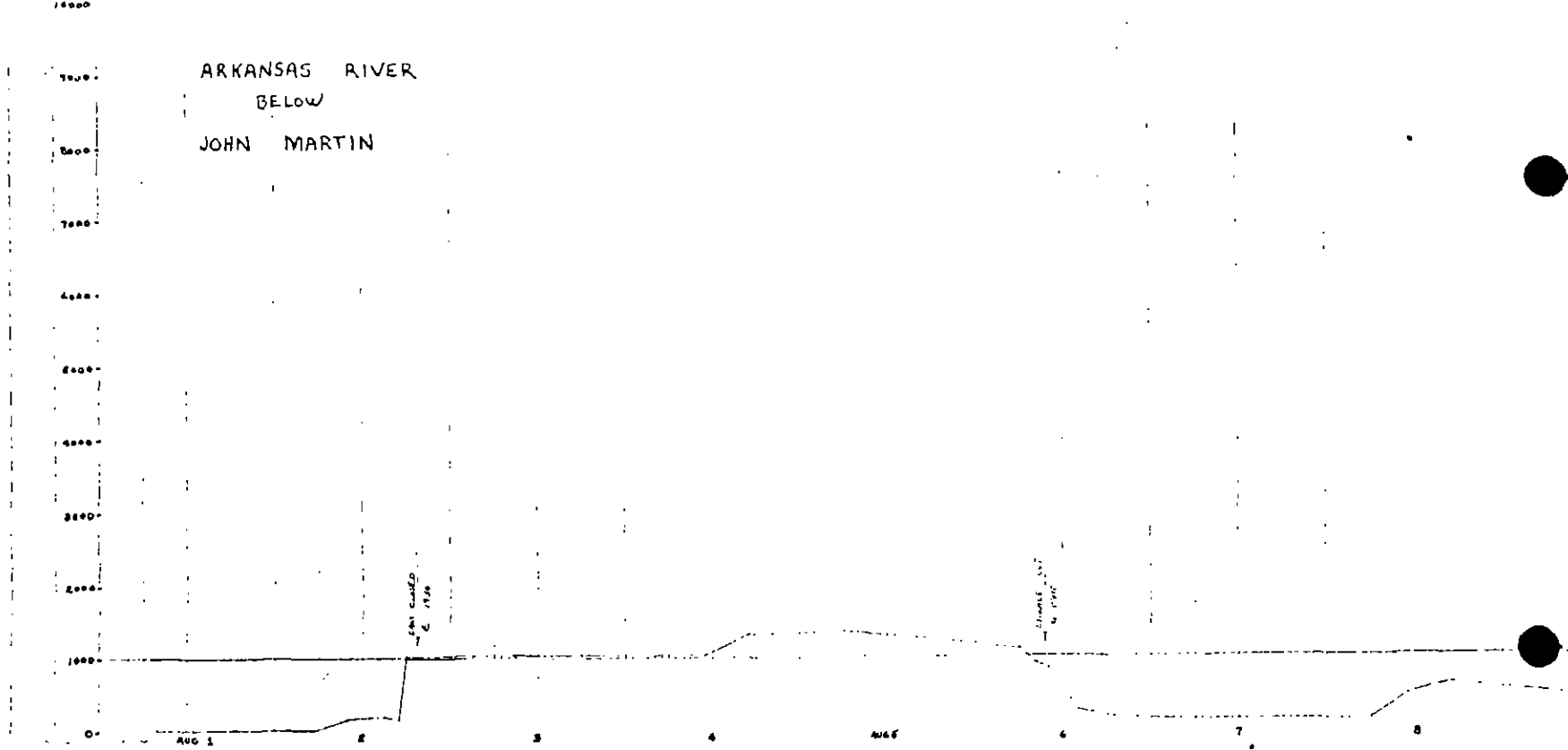
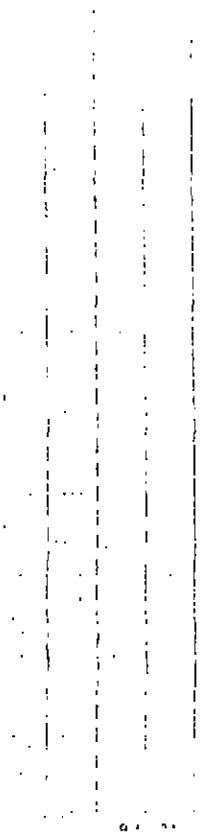
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AUG 5

6

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8



MS415

Water Resources Division
Colorado District

October 29, 1976

Mr. Frank Cooley, Director
Arkansas River Compact Commission
Meeker, Colorado 81641

Dear Frank:

As requested at the recent meeting of the Arkansas River Compact Commission, I am enclosing a copy of the proposed study "Flood Routing Study of Arkansas River and Major Tributaries from Pueblo Reservoir to John Martin Reservoir," for your consideration.

Please call me if you have further questions.

Sincerely,

FOR THE DISTRICT CHIEF

R. U. Grozier

Enclosure

cc: R. E. Fidler, Subdistrict Chief, Pueblo, CO

FLOOD ROUTING STUDY OF
ARKANSAS RIVER AND MAJOR TRIBUTARIES
FROM PUEBLO RESERVOIR TO JOHN
MARTIN RESERVOIR

PRELIMINARY
STUDY PROPOSAL

Prepared by the
U.S. Geological Survey
in cooperation with the
Arkansas River Compact Administration

September 1976

INTRODUCTION

The Arkansas River Compact Administration is extremely interested in the administration of the Arkansas River between Pueblo Reservoir and John Martin Reservoir during floods, particularly those originating above Pueblo Reservoir. The need to detain flood waters in Pueblo Reservoir may affect the ownership of that water, including that which can be stored according to compact rules in John Martin Reservoir. The administration of flood waters occurs in a very limited time-frame, and a greater knowledge of the behavior of the Arkansas River during floods would greatly improve the reliability of the many administrative decisions which must be made.

PROPOSED FLOOD ROUTING STUDY

This proposal describes the procedures that would be followed by the U.S. Geological Survey in studying past flooding and predicting the impact of future flooding of the Arkansas River from above Pueblo Reservoir (Arkansas River at Portland gage) to John Martin Reservoir (Arkansas River at John Martin Reservoir gage). The two-phased study will begin on October 31, 1976, and conclude on September 30, 1977. The first phase consists of a detailed analysis of the flood of August 2, 1976. The second phase deals with hypothetical flooding conditions and will provide procedural guidelines for administration of the river during similar flood events. This phase of the study will concentrate on floods originating above Pueblo Reservoir and include tributary flood-conditions below Pueblo. A

comprehensive final report on the scope, methods, and results of the investigation will be submitted to the Arkansas River Compact Administration during October 1977.

Phase I

- PROBLEM:** Concern has been expressed regarding the administration of the Arkansas River from Pueblo Reservoir to John Martin Reservoir during and following the flood of August 2, 1976. During this flood the gates at Pueblo Reservoir were closed in order to prevent downstream flooding. The flood waters were later released at a reduced discharge rate.
- OBJECTIVE:** The objective is to develop routed flood hydrographs of the August 2 event at several downstream locations. The hydrographs will be developed on the basis that the flood was not stored in Pueblo Reservoir. All major tributary inflows and diversion outflows would be accounted for in the study reach.
- APPROACH:** An existing reservoir release routing model will be modified to accommodate travel time and flood conditions in the study reach. All data on major tributary inflows and diversion outflows during and immediately after this flood will be compiled. The flood hydrograph as determined by the routing model will be analyzed with regard to Colorado water law, interstate compact rules, and current irrigation practices.

Phase II

PROBLEM: The future administration of the Arkansas River during flood conditions would be improved if guidelines were available from which operational decisions could be readily made. These guidelines should include the ownership and distribution of floodwaters for a variety of flood conditions.

OBJECTIVE: The objective of this phase is to route various hypothetical floods along the study reach, thereby determining ownership and distribution of the floodwater. The analysis will include travel time as well as mainstem, tributary, and ditch flows.

APPROACH: Historical flood hydrographs will be used to develop simulated flood hydrographs for use with routing model. Numerous flood conditions will be analyzed in order to develop workable guidelines for making operational decisions during similar events. The analysis will include water distribution by Colorado water law and interstate compact rules.

PROPOSED FUNDING

The proposed study will be conducted during fiscal year 1977, October 1, 1976, through September 30, 1977. The estimated funding and distribution of costs by agency and study phase is shown in the following table:

<u>Agency</u>	<u>Phase I</u>	<u>Phase II</u>	<u>Total</u>
USGS	\$2,500	\$ 7,500	\$10,000
Arkansas River Compact Adm.	\$2,500	\$ 7,500	\$10,000
	\$5,000	\$15,000	\$20,000

CONFIDENTIAL DIST.
 D. H. & E. WAYS TO WORK ON FUNDS
 CONTRACT budget \$5000. See Study.