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BEAR RIVER COMMISSION SPECIAL MEETING

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CHAIRMAN WRIGHT: I'm a stranger here. My name is Ken Wright and I've been appointed by the President as the Commissioner of the Bear River Commission.

A little background. You may be wondering why a guy from Chicago is out here; and yes, I am from Chicago and I have my own advertising agency there after working for a major agency for fifteen years. However, I was raised six months in Idaho and six months in Illinois. We have a ranch in Island Park right next to the Harriman Ranch, a little over 6,000 acres. I grew up there and I love it; and I'd be there right now if I could figure out a way to make a buck in the cattle business, which I can't.

Well anyway, I worked very hard for President Reagan as the Vice-Chairman of his finance committee in the State of Illinois, and when it was all over and he had won I wanted to serve. I respect the man and I wanted to serve in some way - in a non-permanent way. So I went to Washington, D.C. and I talked to Bob Tuttle, and he showed me all these Commissions and all these things and I knew nothing about any one of them; nor did he, really, and I said "well you pick one out that does have some sense of responsibility and some sense where I can feel that I am contributing;" and that's how the Bear River Commission came up.

I'm here; I'm not an irrigator; I'm not an engineer; but I have a great love of the West, and I have an assignment and a responsibility, and I intend to learn as much as I possibly can. So I would appreciate it very much if you all would introduce yourselves and maybe when the meeting's over we will have a chance to get together and visit.

MR. LAWRENCE: Why don't we start with Ed Skeen here. We might just tell you, Mr. Chairman, that those around the table are the Commissioners, with Mr. Skeen as our General Counsel, and you've already met Mr. Jibson.

MR. SKEEN: My name is Ed Skeen. I've been an Attorney for something over fifty years, largely spending my time on water matters; and have been connected with the Bear River Compact since the 1940's, and was Secretary of the Commission that drafted the original Compact. I've also, since that time, been involved in working on the revised or amended Bear River Compact; and have many interests in water matters on the Bear River and throughout the State of Utah, and some in Wyoming, and also Idaho and back in other Western states. I'm very happy that you're joining us and hope we can work together on this.

CHAIRMAN WRIGHT: I almost went to the University of Utah in 1948. I had a basketball scholarship, and that was the year after they'd won the NIT with Gardner and a few others, and my father put his foot down and said no. He wanted me to go to another kind of school, so I said no to that; then went to another school.

MR. JIBSON: I'm Wally Jibson, past Chairman and Federal Representative, and presently I guess my title is Engineer. Along with Ed Skeen and one or two others here, we were the 'old originals' on the Commission, thirty-thirty-five years ago, working on the first Compact; and on the Amended Compact. You and I will get to visit more I guess, later.

CHAIRMAN WRIGHT: Yes. Wally and I and Dan hope to take a tour of the River for our next meeting in November. You know, after Thanksgiving, we're just going - I'll ask a lot of dumb questions and get around, so I hopefully know somewhat what I'm talking about.

MR. HOLMGREN: I'm Paul Holmgren, and I'm the Utah Commissioner for the Lower Bear. I live up here about seventy miles north of here, and I represent a group that irrigates 70,000 acres. I'm President of the Bear River Water Distribution Company. We just purchased that company from Utah-Idaho Sugar Company; we're very interested in the Bear River and what happens to it, because we're on the bottom end of it. I've been on this Commission for over ten years, and I've appreciated the people that I've come to know and I hope that I can get better acquainted with you, Mr. Wright. We'd be happy to show you around our part of the country, if you come up there.

MR. MYERS: I'm Wes Myers from Evanston, Wyoming. We've ranched up there ever since my Grandfather started it. I didn't get in on the writing of the original Compact. I had an uncle that sat on the Board that wrote the first Compact. It took them fourteen years. Reed here, was one of the original group. I have been on the Commission ever since 1958 when the Federal Government ratified it.

MR. DAYTON: I'm Reed Dayton from Cokeville, Wyoming. I'm engaged in ranching and an implement business. It's been a great pleasure to work with these great men. I feel that they're very competent. It's a joy to serve with them.

MR. MYERS: I would say, following Paul's act - when you get on the Upper River I'll be happy to show you around up there, if you need anything.

CHAIRMAN WRIGHT: I'd love to see it.

MR. MYERS: Well, we're way up in the 'boondocks'.

MR. JIBSON: We can stop and see Wes's place. It's one of the old original ranches that the pioneers first set down on.

CHAIRMAN WRIGHT: I don't know if you know Pete Simpson. I went to school with Pete.

MR. MYERS: Yes, I know Pete very well; but I know his brother better, of course because I was in the Legislature a number of years with him. Pete is in the Legislature now. He's done mostly educational work, a good share in junior colleges.

CHAIRMAN WRIGHT: I used to go back and forth with Pete to the Millwards ranch in Cody. Every two weeks they'd come over to our place, and two weeks later I'd go over to their place. We were young kids, 18 or 19.

MR. MYERS: A very able fellow.

MR. BOLLSCHWEILER: My name is Marvin Bollschweiler. I've been actively working on the River, above Evanston and through that area, I guess for twenty, twenty-six years, as Water Commissioner and then Hydrographer Commissioner. I suppose probably I know every curve and bend of the River in that area. I'm sitting in here today in the absence of George Christopulos, our State Commissioner.

MR. ROBERTS: My name is Daniel Roberts, and I'm from Preston, Idaho. We're on the River just before it enters Utah, north of here. We have a real interest in the River because it's our last look. When you come our way we'll be glad to show you what we have in Idaho.

MR. WALLENTINE: I'm Rod Wallentine. I'm from Paris, Idaho. I'm as new on this Commission as you are. I just recently replaced Don Rex in my appointment from the Governor. I was raised on the Bear River. I'm interested because I have a small cow ranch, and I agree with you - if I could make a living it wouldn't be a hobby; but it has to be, and I'm employed at Monsanto Company in Soda Springs. I'm interested in keeping the River for livelihood for all who can and desire, and I too desire to serve. I'll help if you stop my way when you come around.

MR. GILBERT: I'm Don Gilbert from the Grace area. I represent the Central Division in Idaho. I'm also President of the Last Chance Canal Company, which is the largest water user in Idaho. I'm also the President of a newly built hydroelectric plant there. I'm a farmer there; and I'd like to welcome you to come up there and we'll show you around.

CHAIRMAN WRIGHT: Isn't that where Dick Mila coached?

MR. GILBERT: Oh you bet. He's a good friend of mine.

MR. FRANCIS: I'm Blair Francis, and I'm from Woodruff, Utah - and as you'll find, Ken, going up and down the River, it crosses the State line several times. I represent the Upper part of Utah, sitting on the Commission here. I was appointed last Spring and I'm a new member on the Commission; but like these other people, as you come to the Upper part of it, we welcome you to come to my place and we'll show you that facet of it, and the one reservoir that's been newly enlarged on the Bear River that's been not really controversial, but it was kind of instrumental in having the Compact amended.

CHAIRMAN WRIGHT: In the interest of time, I don't want to extend this; but I'd like to visit, if you can stick around afterwards. I'm sorry that I've got a cold; I just came down from Idaho, where it rained six straight days. I had a cold when I left, and it's worse now. Shall we proceed?

MR. LAWRENCE: That'd be fine, I think.

APPROVAL OF MINUTES

CHAIRMAN WRIGHT: I guess our first job, Wally, is the approval of the Minutes of the last meeting.

MR. JIBSON: Well, rather than read the Minutes verbatim, Mr. Chairman, we summarize them each meeting. We get them mailed out before the meetings. I usually read a summary of them, and we approve the verbatim Minutes as they were distributed, or with any corrections. This will be the Summary of the Minutes of the Annual Meeting, held April 18, 1983.

The Annual Meeting of the Bear River Commission convened at 10:30 a.m. April 18, 1983, in Salt Lake City. Voting Commissioners were present, with alternate John Teichert sitting for George Christopulos.

A letter from Governor Matheson was read advising the Chairman that Blair Francis had been appointed to replace Simeon Weston as a member of the Commission, and Dean Stuart, Woodruff, would replace Blair as an Alternate Commissioner. The Minutes of the previous meeting were briefed by the Chairman, and approved as circulated with one minor correction.

The Chairman reported on the intent of the President to appoint a new Federal Representative. After discussion, a Motion was approved to send a letter to the President from the Commission recommending that the present Chairman be continued in his position.

The report of the Secretary-Treasurer showed a balance of about $135,000 as of March 31, 1983; with about $83,000 yet to be expended from the 1983 budget, with an expected balance of about $51,000 as of September 30.

The main item of concern in the Engineer's Report was the 1984 budget and the continuation after June 30, 1983 of the consumptive use study by Utah State University. After much discussion of the Progress Report on the study by Dr. Hill, it was decided to assess each state $24,000 for the regular stream gaging and Administration program, plus $5,000 to cover a part of the second-year consumptive use study. The 1984 budget, as submitted, was amended by a small amount of $320 to update the cost per gaging station from $37.50 to $37.40 per year. The Annual budget as approved would require $19,260 from an estimated reserve of $51,000. The amended budget should be attached to the Minutes. (I have that amended budget in my report today as an attachment to it, and it can go on the Minutes of the last meeting. We forgot to put it on beforehand.)

Paul Holmgren was elected Vice-Chairman of the Commission, succeeding Sim Weston. Dan Lawrence was re-elected Secretary-Treasurer. The question of determination of baseline acreage as of January 1, 1976 was again referred back to the State Engineer's Committee.

The second Committee report dealt with the definition of 'domestic use'. Dick Stockdale, Wyoming State Engineer's office, briefed the Commission on problems encountered in Wyoming in attempting to amend the law, particularly on non-preferred use statutes relative to surface water and groundwater domestic use. The subject will be discussed further when George is in attendance, probably at the next meeting. It was pointed out that there should be uniformity in the definition. John Buyok handed out, without comment, results of a Wyoming study of the University of Utah acreage determinations study.

The meeting adjourned at 1:00 p.m.

CHAIRMAN WRIGHT: Does anyone have any additions or corrections? Do I have a motion to approve the Minutes?

MR. GILBERT: I so move.

CHAIRMAN WRIGHT: Second?

MR. HOLMGREN: I'll second.

Motion passed unanimously.

MR. LAWRENCE: Those Minutes have been distributed in their fullness to the Commission members, and that's what we're approving.

FINANCIAL REPORT

CHAIRMAN WRIGHT: Next I guess is the Financial Report.

MR. LAWRENCE: Mr. Chairman, and members of the Commission, this is one of the very rare times that we've had a meeting immediately following the Fiscal Year of the Commission. A few years ago, the Commission adopted the Federal Year, also because it coincides with the water year, and the Geological Survey records. So the report which Bert has passed out - is a period from October 1, 1982 to September 30, 1983.

Basically, we went into the year with $105,000 and had $72,000 budget assignment from the three states, and used some of the reserves we had and have ended with a $79,000 balance at the end of the year. Utah somehow got out of 'sink' a little bit, and we paid our dues on the State's fiscal year, and so they were paid in 1982 for the year ahead; and again they were paid this September for the next year which began last Saturday.

Bert called my attention to one little item of expenditure to our legal counsel. There's two years of payment in that $1,000 check. So we had budgeted $1,000 but we had not paid him for the previous year. He somehow failed to bill us, and that's why that happens to be. So we stayed under our budget all the way through, except for maybe a $30 overrun in the audit. I guess the auditors had a little cost of living or something.

On the back of the page are the individual checks. We have now in the bank just under $5,000 in checking, and we have deposited to the Utah State Treasurer just under $75,000. The Treasurer permits a pooling arrangement with government agencies, and we take advantage of the pooling interest that the State Treasurer enjoys. And so as he goes to market every Friday, or whenever, he has our money with all of the other governments that take advantage of that in the Utah State Government, and we get a very good interest rate. I don't know what today's rate is, but around 8%. So unless there are any further questions, that's our Treasurer's report.

CHAIRMAN WRIGHT: Any comments; additions; corrections?

MR. JIBSON: Mr. Chairman, I just penciled in some figures to show the Commission about where we would stand after this coming Fiscal Year. You've noticed Dan said we had $79,500 in the reserve, or unexpended. There are two more states to pay in on the $29,000 assessment this fall which, when added to that, would give $137,500; and then our 1984 budget, as approved, is $106,260. So if we subtract that, we would have roughly $31,000 left at the end of this fiscal year that's starting today, plus an interest factor. Roughly, after we pay for the second-year study of the consumptive use study, we would end up with about a $31,000 carry-over next year.

MR. LAWRENCE: We earned $12,000 this year; but it would be something less than that because the balance would be smaller.

CHAIRMAN WRIGHT: Where were you last year?

MR. LAWRENCE: $105,000.

CHAIRMAN WRIGHT: And the reason for the difference, is - ?

MR. LAWRENCE: It's because we were deliberately drawing on our reserves instead of the states' assessments. We're going to have our reserve drawn down before our assessments -

MR. JIBSON: This is why I mentioned this particular point because this study was originally set up as a five-year study. It may not be able to go that long but we've been dipping into the reserves to pay for the first two years.

CHAIRMAN WRIGHT: Has the state assessment gone up for this coming year, from $24,000 to $29,000?

MR. JIBSON: Yes.

CHAIRMAN WRIGHT: What is the forecast? Where do we think we'll end up September 30th next year?

MR. JIBSON: On money?

CHAIRMAN WRIGHT: Yes.

MR. JIBSON: This is the $31,000 that I indicated, after we take next year's budget out. See, our fiscal year is October 1 - September 30, the same as the Water Year. So we kind of figure we'll end up with about a $31,000 balance next year. Plus an interest factor.

CHAIRMAN WRIGHT: So we're okay.

MR. JIBSON: Yes; but the point is that we've dipped into our reserves now, so that we'll have to take a hard look at whether they're dipped into again next year for the third year of the consumptive use study.

CHAIRMAN WRIGHT: How much did you take out of the reserves this past year?

MR. JIBSON: About $36,000.

CHAIRMAN WRIGHT: So there was about $120,000 in the reserve at the beginning of last year?

MR. JIBSON: I don't recall exactly. Maybe I'd better back up a little bit. The first year study for the consumptive use was about $45,000 we took out of the reserve. The second year study was $36,000, the one coming up now.

CHAIRMAN WRIGHT: I see. And it's a five-year?

MR. JIBSON: We contract each year.

MR. LAWRENCE: We had actually a net effective reserve of $75,000 at the first of the year and we're going to be down to $36,000 so, less than half of that. We've got to seriously look at our assessment for the year which ends September 1985, I guess.

CHAIRMAN WRIGHT: When does that money come in from the states?

MR. LAWRENCE: Right after its assessed, in October.

CHAIRMAN WRIGHT: Any other comment? Is there a motion to approve the financial statement?

MR. DAYTON: So move.

MR. WALLENTINE: Second

MR. WRIGHT: All those in favor?

Motion passed unanimously.

CONTRACT WITH WALLACE JIBSON

CHAIRMAN WRIGHT: The next item on the Agenda is the approval of the contract with Mr. Jibson for next year. Dan, do you want to speak to that?

MR. LAWRENCE: Could I, Mr. Chairman? In the notice of the meeting, I think all of the Commissioners received a copy of the latest draft. I made one small typographical change, and here is that same agreement that you have, with today's date.

Are there any of you who did not read the draft that came in the notice of the meeting? If we all got that in the mail - the change that I made was on Paragraph 2 in the action, at the top of Page 2. In the original draft we said that Wally would prepare data for the Biennial Report. As we looked at the Minutes of the informal discussion we had, it was clear that we said Wally would "prepare" the Biennial Report; so I put it so that one of his duties would be preparing the Biennial Report, as discussed in September. That's the only change from your draft.

We discussed the effective dates extensively. This contract is made so that in our November, or Annual, meeting we could renew that on an annual basis, and then it would take effect the next January 1. This runs until December 31st, in 1984, deliberately. So this is a 15-month contract, the way I've suggested it. The $12,000 is just between the $9,000 that Wally said was his minimum and the $10,000 that we said we ought to have. So its $9,600 on a 12-month basis. I don't know of any other explanations. Maybe we ought to just open it up, Mr. Chairman, for suggested revisions by the members.

CHAIRMAN WRIGHT: Is there any comment on the contract?

MR. LAWRENCE: If not, Mr. Chairman, I move that the Bear River Commission approve the Agreement with Wallace N. Jibson to serve as the Engineer-Manager from October 1, 1983 to December 31, 1984.

CHAIRMAN WRIGHT: Is there a Second?

MR. DAYTON: Second.

MR. MYERS: The life of the Agreement - is that fifteen months?

MR. LAWRENCE: Yes.

CHAIRMAN WRIGHT: All those in favor? Opposed?

Motion carried unanimously.

MR. LAWRENCE: We'll enter into the signing of that today, Wally. I assume that the Motion carried with it the authority for me to sign as Secretary, in behalf of the Commission?

CHAIRMAN WRIGHT: Let's assume that. Wally, do you want to make a report?

REPORT OF ENGINEER-MANAGER

MR. JIBSON: Yes, I have a brief report to make. My report will be somewhat shortened from previous reports for one reason: inasmuch as this is a Special Meeting we did not call for the Summary of Applications for Appropriation from the three State Engineers. They could be forwarded to the office between now and November, whenever our next

meeting is, and we could attach them to the Minutes. Then, too, this early in the year we don't have all of our streamflow records computed and so it'll be a rather brief report that we can read over.

(Mr. Jibson's report is attached to, and made a part of, these Minutes.)

MR. JIBSON: I think that concludes my report, unless there are questions or discussion on it.

CHAIRMAN WRIGHT: Are there any questions?

MR. DAYTON: I move we accept the Report.

MR. LAWRENCE: I second.

MR. ARNOW: I have a question. Wally, you have in there, stream gaging agreements, $59,480.

MR. JIBSON: I've got $59,840 on my copy of the budget. Where did you have reference?

MR. ARNOW: It's $59,480 on the white - must be a typographical error.

MR. JIBSON: No - Yes, it is a typographical error. Wait a minute - well, that's just a coincidence that they're near. I've got to check out this $59,480. See, that's just for personal services, Ted.

MR. LAWRENCE: At the bottom under Geological Survey, you've got $59,840, Ted. That's what it is?

MR. ARNOW: That's what it is.

MR. LAWRENCE: Okay, now what's your question?

MR. ARNOW: I just wondered if that top figure should be the same?

MR. JIBSON: No - they're not comparable.

CHAIRMAN WRIGHT: Wally, what is the difference between the $59,480 and the $59,840? Are those two different funds?

MR. JIBSON: Well, we've been breaking down the stream-gaging budget, which is the first column, where I've got 'Stream-gaging Allocations'. And then the 'Administrative Allocation', which is a direct expenditure from the Commission to whatever charge is here. But the cooperative agreement with the USGS is for stream gaging on a fifty-fifty basis; so we broke that down into a number of items. First is 'Personal Services' from the USGS of $59,480 - and actually it's kind of a catch-all because some of these other items are definitely defined. The next item in that particular part of the budget is Number 2 - 'Travel and Subsistence' to the USGS. The next one is Number 3, which is a 'Fiscal and Administrative' charge for the Salt Lake office of the USGS, and the Fourth one is a 'Washington Overhead, charge to the USGS for $10,800. Then, we have a 'Digital Recorder' charge that we have broken out in the past, which is Item Number 6, $1,762.

Now, we would add all of those together, along with - well I should have mentioned supplies, which is also a USGS item; but the total comes to $119,680. Then it's split fifty-fifty between the USGS and the Bear River Commission as cooperators; and that, by coincidence, comes out to $59,840 - which, coincidentally, is near the $59,480 up above. But they're not comparable. So, that's the way we break out that part of the item.

CHAIRMAN WRIGHT: Any comment? It has been moved and seconded that we accept Mr. Jibson's report. All those in favor? Opposed?

Motion approved unanimously.

BEAR RIVER FLOODING

CHAIRMAN WRIGHT: Now, I guess we have a videotape. Is that right? Of the Bear River flooding. The film is eight minutes.

MR. BURTON: I apologize for not having popcorn at this thing, but you know, with the matinee budget show you can't have everything.

I'm Carly Burton. I'm employed with Utah Power & Light Company; and for your benefit, Mr. Chairman, Utah Power and Light Company operates five hydroelectric plants on the Bear River and we also try to manage the

flow into and out of Bear Lake. We haven't done as good a job as we could have this year, I guess; but after Wally has described the events you can maybe understand why. Basically, this film kind of depicts some of the flooding that occurred on the River this year; and as far as I'm concerned, looking back through the records that Utah Power & Light has, this situation is unprecedented in the history of the River. So, with that, why don't we get into this film and I'll just kind of narrate the thing as we go along.

Back in late May, early June, when it became evident that we might not be able to contain all the water, we knew we were going to have to inform a lot of people about what was about to happen, or what we thought was going to happen; so we thought rather than just talking to people about flows and percents of normal, and all those kinds of things, a film would be much better. So on the tenth of June we chartered a plane and we flew virtually the entire River, up to just above Woodruff-Narrows, to kind of depict the flooding.

We started down at the town of Corinne, which is just north of the point where the Bear River empties into the Great Salt Lake. It's a little bit hard to see, for you people in the back; but virtually the entire floodplain in that area was flooded. You can see the water encroaching up onto the farms in many areas. On the first of June the peak flow below Utah Power & Light's Cutler plant was about 8,500 second-feet; and at that time we were storing about 3,500 second-feet in Bear Lake. So had we not been storing some of the water at that time the flow, below Cutler, would have been in excess of 12,000 second-feet, which would have eclipsed the all-time high that was set back in 1906.

Moving on upstream - This is a structure near the Bear River near Tremonton. There's the channel kind of meandering around, and you can see it's well outside of the channel. You don't need to say very much; the film pretty well depicts the situation.

This is a shot of Cutler Dam. We operate a 30,000 kilowatt hydro-electric plant at this dam, which is located west of Logan. This is kind of a nice shot showing the amount of water spilling over the spillway. This is the conduit that takes it into the power plant for generating purposes; and at this time they were spilling about 4,000 second-feet.

MR. LAWRENCE: Have you operated Cutler at top capacity all year?

MR. BURTON: Oh, yes.

MR. JIBSON: Most years they don't spill any.

MR. BURTON: Most years there's no generation during the summer, either because of irrigation

This is moving on up River. This is the south end of Cache Valley, where the Blacksmith Fork-Little Bear area, those streams, enter into Cutler Reservoir. It's interesting to note that when the peak hit down at Cutler on the 1st of June - 8,500 second-feet - 6,000 second-feet of that total flow originated in Cache Valley.

This is just moving on up the River toward Amalga. Some of you are familiar with the Cache Valley Cheese Factory up that way. You can kind of see the channel meandering through the vegetation there; but virtually that entire area from Cutler Dam to south of Preston was inundated. That's the highway going over to Cache Valley Cheese Company. This area was inundated, all the way back into March. Here it's been under water pretty much the whole time. Here you can see that water encroaching out into the cultivated fields.

This is moving on up-River into Idaho, above Preston. This is a shot of Utah Power & Light Company's Oneida plant. There's the plant right there, the surge tank. Then this is a shot of the dike. The earth dike and the concrete spillway for the dam is over here. They started spilling on the 19th of June over that spillway, and the Plant people indicate that's the first time in fifty years they spilled water over that spillway because of surplus, in excess of the generating capability.

Okay, we're moving on up-River now, into the town of Thatcher, which is south of Grace, Idaho. Don Gilbert is a little bit familiar with this area. The River in this area is a meandering stream - you can see a lot of oxbow lakes, very flat, low-gradient profile in this area. You can see the water encroaching on the ground there; and that area's been under water for virtually all spring and summer.

This is Grace diversion dam. Utah Power & Light diverts water at this point for use at the Grace hydroelectric plant, and this was the surplus going over Grace dam. Ordinarily, we operate the Bear River system so as not to spill over this dam. We have spilled water over that dam since about August of last year.

This is moving on up-River. We never got a shot of our Soda plant just upstream from our last picture because the turbulence was pretty bad. So now we're moving on up the Bear River just north of Bear Lake. And this is a shot of the old Bear River channel that Wally mentioned. On the 10th of June, there was so much water at Stewart Dam that water went over the top of the dam and over the road, which forced the people there to open up the dam to get more water down the old channel. There just wasn't any more room to put it; and of course it virtually inundated most of that area.

Stewart Dam is the point on the Bear River where Utah Power & Light diverts it out of the River into Mud Lake and Bear Lake. Here's the dam; Bear River comes in this way, and then it's diverted down to what we call the Rainbow Canal. Previous high flow recorded here was about 4,180 second-feet back in the great flood of '52, and this year we hit about 5,300 second-feet. So we eclipsed the old mark by a pretty substantial margin.

Okay - now we get to the good stuff! This is above any Utah Power & Light diversion now. This is going up-River. You can see the channel meandering through there. Pretty much that whole River bottom was under water in that area. There were some workers from Lifton that were attempting to measure the water on this day - and there's our gaging station. You can see that they probably had a pretty difficult time that day measuring all the water in the Bear River.

MR. JIBSON: The border gage is just upstream a ways, and that's where I mentioned that it was about a half mile. They were able to measure it.

MR. BURTON: Okay. This is probably the most impressive shot. There's the normal channel. You can see the vegetation zones in there. That's up between Cokeville and Randolph; and that's half a mile wide there, as Wally said.

There's an area near Randolph, Blair's place. Okay this is a shot of Woodruff-Narrows, the major impoundment on the Upper Bear River. Wally, did you say they were spilling about 3,600 feet of flow there?

MR. JIBSON: Yes; 3700-something, was spilling on the peak.

MR. BURTON: Do you think that's an all-time high?

MR. JIBSON: Yes; for that.

MR. BURTON: Well, that's as far up as we got, because we were running out of time; but we did get a nice shot of the snowpack in the mountains between the Bear Lake Valley and Cache Valley.

MR. LAWRENCE: I think Jim Palmer would like a little cut of that Woodruff-Narrows thing. He was the designer, and he would like to put that in his memoirs.

MR. BURTON: Yes. It's a good test of the spillway there. Keep in mind now this is the 10th of June; not the 1st of February.

MR. LAWRENCE: About where is that?

MR. BURTON: That's directly west of Paris-St. Charles area. Right up on top of the mountain there. Going across into Cache Valley. And this is kind of a panorama, looking back toward the mountains above Logan.

That completes the slides.

The thing that was interesting, was that back in March and April, the Soil Conservation Service forecasts - especially for the station Bear River at Harrer, which is upstream of Bear Lake - they had forecast an April through September runoff of 268,000 I believe. It turns out that May, June, and July flows at Stewart Dam were 486,000, just for the three months. So nearly 1/2 million acre-feet to try to manage there, made it extremely difficult; and I'm a little pessimistic about what's happening right now with this soil being saturated. When we get the snows this winter, a lot of that stuff's going to run off. We're going to have a very difficult time this winter trying to get Bear Lake down and backed-up. Just to give you an idea of what we're planning - this Friday we're going to increase releases from Bear Lake about another 400 second-feet. So we'll have about 2,000 second-feet, total, going down the

the outlet. I was just looking this morning at the October 1st elevation of Bear Lake, and it's the highest elevation on October 1st since 1922, which is about the same as we talked about on the September 1st elevation. We've got about 300,000 acre-feet of water we've got to get out of there between now and next spring. It's going to be very difficult, and it may be impossible, to get all of that out. It depends on how the weather cooperates.

MR. JIBSON: During the cold part of the winter, how much do you think you can release? Do you think you can hold at 2,000, or anywhere near it?

MR. BURTON: No, there's no way we can do that. The maximum we can get out in the winter is around 1,000-1,100, at best. So we'll have to be cutting back about in December, when that ice starts forming.

MR. TURNIPSEED: What do we have coming in now?

MR. BURTON: About 700.

MR. JIBSON: The average inflow, Mike, was about 800 in September, and better than that in August, wasn't it?

MR. BURTON: Yes. The inflows, now, are nearly four times normal.

MR. TURNIPSEED: I remember last year you said you could release 1,000, and you had 900 coming in just out of the Bear.

MR. BURTON: Yes. Actually this problem that we're in is part of the accumulated effect from last year. There was so much water last year - last year was a tremendous water year, and we were unable to get the Lake down sufficiently to get ready for this year. So, who knows where this is taking us?

MR. ROBERTS: Don't winter temperatures and icing have a big influence on the amount you can bring down the river?

MR. BURTON: Oh, yes - that's a big determining factor.

MR. ROBERTS: In '52 we had that ice pile up in there and we drowned a lot of cattle, and -

MR. BURTON: Needless to say, the people at Lifton are going to have their work cut out for them this winter. I think they've ordered a semi full of dynamite.

Again, I appreciate the opportunity of meeting with you and discussing some of the problems that occurred this year. Mr. Chairman, Utah Power & Light Company is slightly involved with the Bear River, and any services that we have, or information, is at your disposal.

CHAIRMAN WRIGHT: Great. Do you make predictions? (Laughter)

MR. BURTON: We try.

CHAIRMAN WRIGHT: Do you?

MR. BURTON: We miss, too. What happened this year is something that's never happened before. We lost almost two months of the snowmelt runoff period, because the temperatures were - well it was wintertime up into May; then it went from winter temperatures to July temperatures within two or three days.

MR. LAWRENCE: Did we get extra precipitation in late May and June too?

MR. BURTON: Oh yes.

MR. LAWRENCE: Onto that, snow that was lingering.

MR. BURTON There was some precipitation, but it seemed to me at the time - now, it's a little hazy when I think back - but it seemed like it was more going from that 50 degrees up to 90 degrees that really kicked that loose.

MR. TURNIPSEED: The April 1st snow survey only indicated above normal.

MR. BURTON: Yes. 85-90% of normal.

MR. JIBSON: Well, 80% on Smiths Fork, which is the biggest tributary.

MR. STOKER: It did the same at Harrer. It was about 80% in the April 1st survey. And there again, each month they upped it until they gave up, and at about 130 or 140% they quit sending reports out. But when you say you've got 700 to 800 feet in Rainbow on a normal, through the month of September, where a normal fall we'll have 250 or 300 - . And then you've got around 800 - or have had - though 600, I think, is the lowest it's been through the whole month of September, and then we get another rainstorm and go back up to 800.

MR. BURTON: And so I'm sure Woodruff-Narrows will be sending us a little present pretty soon.

MR. JIBSON: Did you say, Carley, that you had about 700 now?

MR. BURTON: Yes; pretty close. A little under 700 as of yesterday.

MR. JIBSON: The actual elevation - do you recall it?

MR. BURTON: 5922.2.

CHAIRMAN WRIGHT: Wally, shall we move to accept the tape? (Laughter).

MR. JIBSON: We've been running in a dry year and a good year, a dry year and a good year; but it broke the pattern in 1983. So, we don't dare predict a dry year for next year.

CHAIRMAN WRIGHT: Have there been any predictions about this coming year?

MR. JIBSON: Not yet. SCS usually gets them out about the first of December; first of January.

MR. LAWRENCE: Nobody dares this year. We're all running scared.

MR. HOLMGREN: You know, this compares with 1979. We on the Lower Bear were about scared to death because we were afraid we weren't going to get any water. That was a very, very dry year and we lost a lot of money on crops that we did not get water to. And those pictures you showed of the mountains with the snow on June 10th - I don't think they had that much snow in February of '79; and I remember the ski resorts didn't open until late in January.

MR. JIBSON: '81 was almost as bad again.

MR. HOLMGREN: So I'll tell you something; this can change. Fast; real fast. And we hope it does.

MR. LAWRENCE: We're praying for an Indian Summer right now.

TRI-STATE CONSUMPTIVE USE STUDY

CHAIRMAN WRIGHT: Thank you again. I guess our next subject is a report on the Tri-state Consumptive use study.

DR. HILL: I'm Bob Hill from Utah State University's Irrigation Engineering Department, and I've tried to put together just a brief summary of this last summers activities.

I'd like to point out that we established automated weather stations at several locations in the Bear; some of which we had last year. We added two - one at Hillyard Flat, and one at Randolph on a sagebrush site; and the names of these sites and their locations are indicated on page 3 in Table 1. Then on page 4 is a schematic map showing the general location of the weather station sites throughout the Bear River system.

These sites were visited weekly, beginning in May and continuing through mid-October. Gary Graybo, our student who's making the visits, left this morning again for his two-day trip, going from Logan up around, upstream to the Bear; and he'll wind up at Hillyard Flat tomorrow afternoon at about 3:30 or 4:00 o'clock. He will be going again next week on a weekly trip, and I think Idaho will close its stations out late next week; and we'll close ours out in Utah and Wyoming probably the following week, before deer hunting..

CHAIRMAN WRIGHT: Could I ask a dumb question? What is the purpose of these stations?

MR. HILL: Okay. What I'd like to do, Ken - I have a few slides, and I can explain a little bit more about what we're doing. Basically, what we're trying to do is pick up sufficient weather data at each site so we can use any one of a number of equations to calculate consumptive use; and at the same time we're trying to measure water use by the plants, by different methods - neutron probe, or lycimeters. We try to correlate the calculations, using weather data, with what we've measured. If we can get a good correlation then we use historical weather data to go back in time and calculate depletions. It's expensive to measure water use directly. If we can get an equation that fits, that saves us quite a bit of money.

CHAIRMAN WRIGHT: That's what we're after?

DR. HILL: That's what we're trying to do.

We installed non-weighing lycimeters in high-water table irrigated meadows at sites 4, 6, and 8, which is Randolph, Utah, on the JF Ranch; Montpelier, Idaho at Wallentine Ranch south of Montpelier; and up to Hillyard Flat on the Barker Ranch; and I have some slides showing that installation. We started that in late May; and if you'll recall, we wanted to do this last fall and it was so wet last fall and it was so wet this spring that we just couldn't get out into the fields to get them in 'til the end of May and early June.

We had a field trip with the Commissioners on the 19th and the 20th of May, just a week prior to when we got these lycimeters in. The preliminary analysis of water use on those lycimeters is contained in Table 3, which is the last two pages of this little summary report. The estimated water use generally ranges from 13 to 17 inches, with one value at 23 inches and that was at Randolph.

I need to point out that we need to verify this data with when we think the lycimeters became established; and in the slides you can see what I'm talking about on the establishment. You should consider these numbers as rough approximations only, at this point in time, until we get a chance to analyze the data on a more detailed basis.

We installed neutron probe access tubes in alfalfa fields adjacent to sites 1, 2, 3, 4, and 7. Our '7' site was a sagebrush site; no irrigation there. Additional access holes were located near Border and Cokeville, Wyoming up at Border's Etcheverry Ranch; in Cokeville, on the Cornea farm down south, and the Carter Ranch up Smiths Fork. The SCS put these access tubes in for us sometime in late June or early July, if I remember the date on that. So we've read them. We determine soil moisture levels on a weekly basis. As Gary made the trip he'd stop and pick up the readings of the neutron probe.

CHAIRMAN WRIGHT: Are there any questions on this brief summary? Mike?

MR. TURNIPSEED: I just noticed - was your typist from the west side of Cache Valley, by any chance? In the last paragraph you've got a 'Newton' probe? (Laughter)

MR. LAWRENCE: I just wondered if Commissioner Francis gave you a bonus to do this experimenting on his farm?

MR. FRANCIS: That's not my farm. That's Weston's. That's Sim's brother - Norman Weston.

DR. HILL: What I'd like to do is do some deer hunting up there, but I can't get anybody to let me have permission.

MR. JIBSON: The more acquainted you get with these guys, Bob, the less they're inclined to let you hunt up there, too. (Laughter).

DR. HILL: (Slide presentation) This is the non-irrigated alfalfa site, near Swan Lake, between Swan Lake and Preston; and this is on the 19th of May. You can see a few of the Commissioners there; Wally, John Buyok from Wyoming, Dee Hansen, Gary Graybo's the one on the left - he's the student that makes the trip. Rick Allen from the University of Idaho is in the hat, bending over the weather station.

MR. LAWRENCE: What's that instrument on the ground?

DR. HILL: That's a rain gage on the ground. There's a tipping bucket in there with a little electronic switch. So that when the rain comes, the bucket tips back and forth. Our microprocessor in the box keeps track of the number of tips. On the top is an animometer for wind travel; and then just below the animometer is a little white box, which has in it temperature sensor and humidity sensor, and there's a solar radiation sensor that you can't see that's on an arm extending towards the back. So we pick up maximum-minimum daily temperature, solar radiation, wind travel at 6-hour increments through the day, rainfall, and maximum humidity. The Idaho sites get it on the hourly basis; but the rest of the sites we're picking it up on a 'daily'. There is no lycimeter at this site, because there's no water table here; and so we're using three neutron access tubes at this site. If I had pictures from three weeks ago, you'd see how dormant this gets. They get one cut and then it just goes dormant on them.

This is the site at Montpelier, on the Wallentine Ranch. We installed three lycimeters at this site, Dan, two weeks after this picture was taken. See Don Rex there to the right. The lycimeters are located just generally behind the weather station from where we're viewing it.

This is the weather station set up at the sagebrush site about three miles from the JF Ranch site. You can see the JF Ranch site from here. This is in the southwest, up on the sagebrush flat. The notion with getting the site on a dryland area or a sagebrush area was, is there a significant difference in temperature from down in the bottom in the meadowground up to the top where we have less moisture available to us. And the answer is 'Yes, there is'; and I'll show you in a minute on the Table, as we finish up here.

And then this is the site on Barker Ranch up at Hillyard Flat. And again on the 20th of May, there is still a significant amount of snowmelt off those meadows. You can see the stream flowing there to the left. Very little greening up at all at this point in time.

Here's where we're beginning to install the lycimeter on the JF Ranch - the first lycimeter. You'll notice we tried to be as careful as possible to dig out the sod to at least shovel-depth and save it intact on the site. We took out different widths of soil and put it in different piles so that when we replaced it back in the lycimeter we try to get it back in the same order as it was naturally. And we ran into a water table at that site on the 26th of May at 30 inches below the ground surface; and it got more difficult from there on. You can see in the background - the brown box is the lycimeter. Ken, for your information, that is just a closed box with the top open. And the notion is that we do not let water get out of it - no leaks. So there's not water coming in or going out, and the only water that goes into that lycimeter is what we add or pump out ourselves, so we can keep track of how much is coming and going. We put plywood around the hole to minimize the damage to the grass right adjacent to the hole. There is the finished installation. We had to leave a little edge on the top so that when they irrigate it, we didn't get water overtopping our sides. That's when we lose control of how much water got in. So when they irrigate it, we irrigate it.

This is the same lycimeter on the 16th of August. They had just cut the hay in the background the day before. You can see at this particular site we put a little 4-inch diameter rain gage out, so we can keep track of the precipitation on a week-to-week basis. I would say

that's close to being established; because here it is the 16th of August. It's close to looking like we have the same conditions inside as we do outside in terms of growth.

There we're harvesting that lycimeter. We hand-harvested the area adjacent to it, at the same time or within a couple of days of when they would have harvested the field.

There's the lycimeter to the west, on the following week after we had harvested it. You can see the regrowth coming back inside the lycimeter. It's looking pretty good compared to outside. This particular one, the week after we put it in, which would have been about the first week of June, their yearling cattle got in on that and did a 'rain dance' on that lycimeter; and we had to completely re-sod it about mid-June, so it has a later start than the others.

This is one of the lycimeters at Montpelier. You can see how we saved the grass in chunks to try to fit it back together like the pieces of a puzzle, so we put it back in in about the same order as it came out. There's the 22nd of August, the Montpelier lycimeter; after we had harvested it the week previous.

There's the two lycimeters at Montpelier. They are relatively close together, but there are three significantly different grasses and vegetation. And there's the Number 3 lycimeter.

They had pulled the water off of here some period before, so they could come in and do the cutting, and their haying operation; so the water table's dropped out quite a bit and the grass had started to go brown, dormant adjacent to there.

This is a sample lycimeter at the Barker Ranch on the 30th of August. They were delayed in getting their haying going because they had some rain. Is that right, Wes? You had some rain that kept your haying operation a little bit later than usual?

MR. MYERS: Yes, that is right. We had one period of 16 days that it didn't get dry enough to turn over.

DR. HILL: So I think this was about 2 weeks later than the normal period. I'm a little concerned about these two lycimeters at the Barker Ranch.

They didn't appear to get established as fast as we would have liked. So I don't know how early we can start taking valid date off that.

And this, of course, is the sagebrush site; but it didn't change much all through the season. It looked like that all season long. We have two access tubes here, where we can take soil moisture readings to a ten-foot depth. We had access tubes at a center pivot at Deseret Land & Livestock south of Woodruff, and this is when we came in and hand-harvested this area around the access tube.

And here's the Talmedge - this is an irrigated site west of Soda Springs the 27th of June; and that's a pretty good-looking stand of hay. I think they came in and cut that either the next week or a day or two after we were there. At Echiverria's, north of Border, they, again, had a pretty good stand of hay. This is on the 12th of September after they had taken their last cutting.

One of the problems we have is getting the cutting around the access tube to look like it does out in the field, because the farmers are generally a little bashful about running their swath right over the top of our access tube; but we've got it set low enough so they could, and we wish they would. But they're a little shy about doing it, and so we end up hand-cutting it. Here's the JF Ranch the 6th of July, the first cutting.

That's the end of the slides. I'd like to take just a moment longer and show one more Table to you, if you'll turn to the back of your report again.

Table 2, page 5. There's a summary, just a printout. Each week when we go there, Ken, we take a casette tape and read the weather data off onto a tape recorder; and we come back to the office and have a little read-out device that reads out the daily values for the previous week for us. This is just a summary off that casette tape as we pulled it off, from the 10th of September through the 26th of September, which was last Monday. The last time Gary was there. He would have been there on Tuesday morning, so the data would have been valid up through midnight of last Monday. Notice on the 20th of September at the JF Ranch, the minimum temperature - on the left-hand side - was 12.7 degrees Fahrenheit.

The Thornock site, which is within eyesight of this to the southwest up on the sagebrush, the minimum temperature was 15 degrees, which was about 2-1/2 degrees warmer up there on that dry sagebrush site. These are all Fahrenheit readings - 12 degrees in September. On the 20th of September at Hillyard Flat it was 9.8 or almost 10 degrees, minimum temperature. That was two weeks ago tomorrow. That was the same time it was 6 degrees below zero in West Yellowstone, and at St. Anthony, Idaho it was 10 degrees; 10 to 18 degrees in the Upper Snake River valley area; and up at Teton Basin it was 10 degrees. So they really got their potatoes taken care of up there. The same night we had these minimums in the Upper Bear River, the same kinds of things happened in the Upper Snake River.

Are there any questions on this information?

We have a second year of data on some of the neutron access tubes, because we took them in at the beginning of last year. So we get some information off that. But up on the alfalfa fields or grain fields, where there is not a water table - and one of the big issues has been what is the consumptive use in the meadow areas where we have a high water table. You can't measure that neutron probe; you can't get soil samples. The lycimeter is what is required there. And because of a wet fall last fall, we couldn't get them in last fall. In the spring we were delayed. I think we may have from about - we've guessed, if you look on this table, about the end of July as the first time we accept some of the data as being established. So we've got late July, August, and September, and now we're going into October. We really need to have April, May, June, and July. If we go that far into this next summer, we'll just have then one season's worth of data. And I'm really concerned about just one season worth of data on consumptive use - trying to drawing firm conclusions. We can draw some conclusions, but to say that's going to be the way it is every year. . . . That's why we proposed the 5-year program here, assuming we get 4 years' worth of data.

MR. LAWRENCE: Would you feel a lot better if you didn't have the wettest year of record? It seems to me that the correlation to the drier years might be . . . .

DR. HILL: One of the things we're going to look at is temperature. Our experience last summer, 1982, was that the minimum daily temperature down in these meadow areas was essentially the dew point temperature every morning. So we're going to look at that again this year to see if that's the same. Of course that means we have 100 percent humidity early in the morning. And if that's the case, it may help us a little on extending the record.

MR. LAWRENCE: How do you measure the sidecover, or the opposite of the sun?

DR. HILL: The solar radiation is measured by an instrument we call a pyronometer, which is about that big around and has a white dot in the center and a black doughnut around it. And there's a temperature difference when the sun shines, between the white and the black. We would have an electrical integrator inside the microprocessor that keeps track of that current, or electrical difference, and it relates that back to solar radiation. That's a continual thing. This microprocessor samples all the sensors every minute, totals it for an hour, and then - like Idaho does, they pull it out on a tape every hour - we just pull out the total daily values and the maximum temperatures. That saves us a lot of tape storage.

MR. WALLENTINE: In a year you won't have anything near normal, because the lycimeters are right on the north end of all this flooding Carly showed you; just right on the verge of it. In one more season you won't, because of the high water table now. So you'll need at least another year after that.

DR. HILL: These sites were selected for several reasons: 1) the closeness to a weather station, and that was based upon whether we'd get permission from a local rancher to put a weather station out there; and remoteness - we didn't want them by a major highway; we wanted them out where they're not too visible. In fact if you tried to see the one at the JF Ranch, I think you'd be hard put to see that weather station if you didn't know where it was, if you drive even into the JF ranch house itself. We try to keep them so they're away from the road. Remoteness, in a way, but still representative areas - irrigated meadow, high water tables, where we are looking for the lycimeters.

MR. LAWRENCE: Why don't you refresh my memory just a little on the reason for the whole study, in the sense of we've already got the Blaney-Criddle method and all of this, and why did we need to do something on the Bear River?

DR. HILL: The Bear River Compact indicates that depletions will be determined by Commission-approved procedure. At this point in time - am I right? - there is no Commission-approved procedure that's agreed upon by all three states. The State of Idaho uses one equation to calculate depletion; Wyoming and Utah use a similar equation, but maybe not implemented the same way. There have been no measurements of mountain meadow consumptive use in the Bear River system. In Logan at Utah State University, we've got a lot of measurements on crop water-use under research conditions, but none under farm field conditions and none under high water table conditions.

So as we start putting these things together; Dan and I got visiting with Wally - I guess it's been two years ago that we started talking about this - and said, "Look, we've got some technology now, we've put remote weather stations out that don't have to be manned every day; could we look at measuring consumptive use under these meadow conditions and other conditions in the Bear River, relating that back to weather data, and simply come up with an empirical equation - either the Blaney-Criddle equation recalibrated, or some adjustment on another equation - to estimate depletions?" So that's where we have gotten to.

MR. TURNIPSEED: Well we kind of intuitively thought the Blaney-Criddle wouldn't fit too well at the high elevations, and the data are proving that out.

DR. HILL: From last year's neutron probe at the JF Ranch, I used just the Blaney-Criddle equation, as literature published was 20 percent low on the alfalfa water-use at the JF Ranch. That was for a partial year, from about mid-June on through September - compared to a more complicated equation that requires a lot more data, which we're collecting. But when I got looking at that, if I went back and used the Woodruff temperatures, which are in a standard weather bureau shelter in a community, and they're

about 3 degrees warmer than they are out at the ranch; then the Blaney-Criddle equation, on a seasonal basis, gained about 17 percent. So it's still low, but only about 3 to 5 percent low. But on a month-to-month basis it was off. On a seasonal basis it wasn't too bad if I used the in-town weather bureau shelter data.

There is some concern on high elevation what equations you use, and there've been no measurements. One of the best ways to settle the controversy is to make some measurements, if we can get reliable data.

Any other questions or comments on this?

MR. MYERS: How much of the water is under this depletion allowance? Is it just the new Compact storage water, or does this apply to a lot of other waters that I'm not familiar with?

DR. HILL: This really ought to be answered by someone other than myself.

MR. JIBSON: Wes, the situation is, and maybe I can back up just a little bit for the Chairman's benefit too - Under the first Compact in 1958, we did not use depletion as a measure at all. As you know, in dividing water among the various state sections of the three states, or particularly in the Upper Basin, we used as a measure the amount of water diverted to the land. With the Amended Compact that we're operating under now we set up a depletion allowance that applies to water put to beneficial use after January 1, 1976, which was our cutoff date. Now that depletion allowance not only refers to reservoir development, but basically to any water that is put to beneficial use after January 1, '76. So that could be your new water rights, your new wells, all of the uses in addition to reservoir storage.

The purpose of our contract with the University of Utah, initially, was to try to get a handle on the acreage that was being irrigated as of January 1, '76. We haven't a very good handle on it from that. But then in the future we will have to compare the acreage with that figure of 1976. And in comparing it, then we will try to apply a procedure that the Commission will have to approve that is going to be based somewhat on Bob's studies for estimating that depletion on each acre of ground that is brought in as new land, or for each acre of ground that we apply supplemental use on. So it's going to be kind of a complicated thing.

But in direct answer to your question - it applies not only to reservoirs, but to all new uses.

MR. MYERS: That's only in the Upper area. Now in the Lower area where the storage has not been anywhere near completed, does that apply to that storage when it is completed, or doesn't it?

MR. JIBSON: In the basin below Bear Lake, which is a division between Idaho and Utah, we will also apply depletion; but they have been allocated, as you know, blocks of water to develop - 125,000 the first block to Idaho, and so forth. Now that 125,000, again, is not a measure of water diverted or water stored; it's a measure of the depletion in Idaho and in Utah. So we are going to use depletion throughout the entire basin under the Amended Compact.

There is also an allowance for the amount of water you can put into storage. We increased that to ~~75,000~~ 74500 incl Id acre-feet per year. But that is not as critical a thing as the depletion, because it's the depletion that will be the most important.

MR. MYERS: I guess I'm looking at the thing with anything but rose-colored glasses, because I think that after we get all these studies made we're going to just continue on and on with them because I can't really get it through my head how you can blend pre-'76 water, storage water from after '76, storage water from before '76, early priority water, mid priority water that's running down across - all mingled together, co-mingled - and come up with anything that is really going to stand up. I hope we can. But I think about my own irrigation procedures where I have old water rights, newer water rights, and pre-'76 storage, and after '76 storage, and it's all being intermingled and running down through the cobble rocks under the ground and coming up down below. How they're going to know which is which - that's what's baffling me.

MR. JIBSON: Well Wes, new land is not going to be a big problem; we can all see that. We bring in a new acre out here and break it out of sage brush and irrigate it. From these equations we can tell how much actual depletion the crop takes - you put it into alfalfa, or whatever. But as I mentioned, and as you mentioned - the complexity of it is going to come in the fact that we're supplementing our present irrigation with some of

the new development. The Woodruff Narrows and your reservoir up at Deer Creek that we're looking at - most of these are going to be supplemental. The same criteria will hold, but we're going to have to see how much the basic water right took care of the problem in a particular year, and how much the supplemental will have to take care of. Now in a dry year maybe you don't have enough natural flow water and water from storage of reservoirs developed before 1976 to make your crop. Then we've got to figure out how much of this supplemental water goes into making the crop. But we still have to use the same criterion Bob has been talking about here; have some kind of a consumptive use equation on it.

Admittedly it's going to be complex, and I don't know that anyone in this room knows all the answers of how we're going to administer these things. But first we're going to have to pick up a procedure that is suitable to all three states. Maybe the procedure won't be 100 percent accurate; but if the same kind of a procedure used in Idaho is used in Utah, and used in Wyoming, we're on a comparable basis. We want it as accurate as possible, but at least it's going to be consistent. And it's going to vary in whether you're talking about land down in Cache Valley, or you're talking about land up on Hillyard Flats. We may end up with four or five different basic equations, Bob, covering the Basin?

DR. HILL: That's hard to tell.

MR. JIBSON: It's hard to tell. But anyway, we've got to start somewhere. And we feel that if we can come to a meeting of minds among the states on the procedure that we're going to use, then we'll try to play it by ear on these other problems - and they're going to be difficult.

MR. MYERS: I think it's going to be an educated guess, and maybe it will improve that guess a little. But as I think about the movement - the storage water in the ground is one of the best storages we have, and the higher up you put it in, the more it's used on the way down. And how you're going to know where this water that went into the ground up here, whether it's going to be 15 miles down the river or 40 miles down the river, and what percent it is that requires depletion allowance, and what percent it is that doesn't, is going to be so complex that I think it's going to verge on an impossible bureaucratic method.

MR. JIBSON: Well hopefully before we get down to the point of using up the depletion allowance, you and I will be buried and we'll have to pass it on to someone else. (laughter)

MR. MYERS: I will try and play along; but I have serious doubts that we wouldn't be better off to just use what storage allowance we have and do the best we can and save our money. I hope I'm wrong.

MR. JIBSON: You know, Wes, we discussed this a lot in formulating the Amended Compact, and your State Engineer Floyd Bishop was one of the first ones to criticize the depletion method - not the method itself, but the administration of a depletion method. And I think this is one reason we shied away from it in the first Compact. We had enough problems. So we worked on a basis of straight diversion. You divert so many acre-feet to land, or so many second-feet rate of flow, and you're allowed so many second-feet; and it's fairly simple to administer it. We all shied away from depletion, but really, depletion is the more equitable method of dividing water. It may not be as practical a way to divide it, but it's more equitable because it's the depletion, after all, that counts as far as the downstream users.

MR. MYERS: Well the ideal irrigation system is to sprinkle it on and you use it all, and then you don't have to worry about what's going down under the ground, return flow, and all these things. I'll go along with it for a while. It's just I'm old-fashioned; I can't see that the use of all this research and all this effort when the old method was much more simple and so much less costly. I'm not trying to throw any cold water. I think we've got to get into this - just exactly what we're doing and where we're heading - as we go along.

MR. JIBSON: Well maybe Dan or some of these other people here could . . .

MR. LAWRENCE: I'll make my prediction first. I predict the Commission-approved method is going to be a diversion requirement factor of our data that we develop, and we're going to end up actually saying, "Okay, the diversion requirement will be so much based on the consumptive use." I don't know if we will, but that's what I think - we're going to end up translating it to a diversion requirement.

MR. TURNIPSEED: Wes, wouldn't you agree that the real gage of how much is consumed is how much is left over and runs into the Great Salt Lake? Right? And that's easy to measure. The same thing at Randolph. Everything that runs out of the Upper Basin is pretty easy to be measured at Randolph. But it's all these intermediate steps that are going to be simply intermediate bookkeeping methods. So that our office can say, "Okay, we've approved so many acre-feet of water. How much do we have left in our bank account? How far can we go before we have to just shut the whole Upper Basin?" If we can make the intermediate bookkeeping method accurate enough we'll have a good handle on that, but the ultimate measure is going to be Norm's modeling, or whoever succeeds him, or whatever, and how much goes into Idaho and how much comes back into Utah and how much runs into the Great Salt Lake. That's going to be the true measure of how much is depleted. But if we don't have any intermediate bank accounting method, we never know where we are from year-to-year - how many more dams can we approve, or how many more big wells can we approve, or whatever. Do you see what I mean?

MR. MYERS: Yes.

MR. HOLMGREN: Do you think, Mike, that if these people in the Upper Bear started using sprinklers instead of flood irrigation that we'd get a very dramatic change in the read-out in these areas?

MR. TURNIPSEED: No. I think you might on an individual year, but I don't think the Commission, or the Compact allocation, is too worried about any single year. What you need to worry about is your average depletion over some span.

MR. HOLMGREN: I was just thinking, with sprinkler irrigation you wouldn't get as much return flow, though, as you would flooding the meadows.

MR. TURNIPSEED: That's true. If it's coming out of Woodruff Narrows reservoir, whether it's in a pipeline and supplied by sprinkler or whether it goes through the ditch and goes over the land, if it's applied by sprinkler and you don't use it, it's still up there in the reservoir; so it goes over the spillway the next spring and goes into Bear Lake and

you guys get the benefit out of that the next year. So whether it returns through the ground, or whether it comes over the spillway and on down the river, . . .

MR. HOLMGREN: I guess what I was thinking of is drilling wells and pumping it out. But, of course, if you used it in a sprinkler out of the reservoir there probably wouldn't be any change.

MR. TURNIPSEED: Or even out of the wells. Whatever the well's drawing out of is recharged by the snowmelt. The snowmelt otherwise went on down the river and into Bear Lake.

MR. MYERS: You'd have to change your whole system, though, because the people just below the first guy that's using a sprinkler are depending on a 50 percent return flow.

MR. TURNIPSEED: True.

MR. MYERS: So you'll have to run it out of the reservoir, and they don't have the right to it because the people that built the reservoir store it there until they need it. And the guy down the road that was depending on the 50 percent is coming up pretty short.

MR. TURNIPSEED: Now you have a management problem on it between users in a given basin.

MR. MYERS: That's right. We're getting to a bureaucratic something that I can't comprehend. That's beyond me.

DR. HILL: This is the reason why you went to depletion, so that if somebody wanted to go to sprinkler and their depletion stays the same, they still have the same water. Their diversion may change. Hydrologically the water's still in the system. It may be there at a different time of the year, as Wes has pointed out. If the guy diverts only 50 percent of what he's been diverting because he's changed to a different irrigation system, the water's in the river; whereas it would have been going through the groundwater and been delayed in getting back to the river. So the hydrologic timing is different.

MR. MYERS: Well it's something like flying to the moon; I don't understand it at all.

MR. ROBERTS: We had one lawsuit in our county which was rather on this line. The one farmer's land was rather steep. The water ran off the end of the farm. So he come back to the canal company. He wanted to measure that water that ran off the end of the field. He wanted them to give that much more up at the top so he could have total consumptive use. That was an interesting lawsuit. Do you own that after it leaves your place? The court said 'no'.

MR. DAYTON: I concur in a lot of the thoughts expressed by Wes, because we're really dealing with a lot of unknowns, aren't we? But maybe this process might be the means of helping to make a determination.

CHAIRMAN WRIGHT: Is there a Colorado River Commission? Is there an exchange of methodologies? Many problems that they face are quite similar to our problems. Is there a back-and-forth?

MR. JIBSON: One thing, Ken, they work on a 10-year basis in their measure of depletion, which simplifies it some. We're not set up really to work even on a 5-year basis. The Compact says depletion in any year. Mike mentioned the fact that from a practical standpoint maybe we can't measure it each year; maybe we've got to go on a 4- or 5-year basis. But that's one big difference.

MR. LAWRENCE: The other direct answer to your question - Utah and Wyoming are involved in the Colorado River Compact, and we have Norm Stauffer here solving the same problems for Utah for that basin and the Bear. The same way in Wyoming. So the exchange, I guess, is by the states rather than from Commission to Commission.

MR. MYERS: I've delayed you long enough, I guess. Let's go on.

MR. JIBSON: Well Wes, I certainly don't disagree with you in what you're saying. I know the situation, and you know it, and it's going to be tough to come to an actual basis here. But the Amended Compact is a reality. So we have to approach it the most scientific way we can without getting too many bureaucrats involved.

MR. MYERS: After we kick this around for 20 years, then we can reamend it. (laughter) I'm getting ready for that.

CHAIRMAN WRIGHT: Where are we, Dan?

MR. LAWRENCE: I think we're probably pretty well through with that agenda item. If Bob wanted to make a final . . . .

DR. HILL: I just wanted to point out that when you look at the lycimeter data on the back, for most of them the rainfall is half of the water use - about 6 inches of rainfall in about 12 inches.

BIENNIAL REPORT

MR. LAWRENCE: Could I just mention one item? You have the report on your desk. I don't know - was I asleep when we talked about it, or did we talk about the Biennial Report? Is there anything, Wally, you want to say about it?

MR. JIBSON: I'd like to ask you to take all the copies you need for your use. Do we have anyone from Cheyenne here today? We'll have to mail some over there. Carly?

MR. BURTON: It says on the bottom here - '81-'82, and then it says, For the Report Year October of '80 to September 30th of '82. Is that right?

MR. JIBSON: Yes, this is a Biennial Report - a 2-year report. That's why it's thicker than the old one.

Let's see. We don't have anyone from Boise either. We'll have to mail the two state engineers a number of copies. But any of the rest of you - we have plenty of extras. Take what you need.

I don't know as I have any other comments on the report. I think it's interesting to see the contrast in these two years in the biennium. We're talking about what '83 looked like, but we have quite a contrast between 1981 and 1982 fiscal years, as you'll see in the ~~drafts~~ graphs here in the report.

DR. STAUFFER: I have a question on the stream gages listed in here. Are these all the stations that we cooperate with the GS?

MR. JIBSON: No. We try to keep this report from getting too bulky. I cut the streamflow records down that we publish here, to those that are of direct concern to the Commission and the administration of the

Compact. As a matter of fact, when we first started publishing this as an annual report, Ted's boys, and I was one of them then, were about a year or two years late all the time getting out a report on the streamflow records. So one reason I put them in here was because we had this published much earlier, and I had it for my use. Well now, I'm getting this out now; Ted's report came out here a month or so ago. So they've caught and overtaken us. But there's still, I think as a matter of record, a very definite advantage in publishing some of these streamflow records, because some of them are needed in the actual administration of the Compact. And when we refer to different points in our day-to-day operation, we have to refer back to streamflow records. So I think we're justified in publishing the records that are of direct concern to the Compact and to the Compact Commission, even though they're duplicated now in the water supply papers that the USGS puts out, and we've already received the 1982 records from Ted.

CHAIRMAN WRIGHT: Wally, is a computer used in any of this?

MR. JIBSON: No. This morning I was in Dan's office a little bit before you arrived, and we discussed with Norm Stauffer and Bert and some of the others where we might utilize a computer in this, and I'd like to pursue it a little further. Some of these tables are very laborious to make up - they have to be made up in pencil copy, they have to be added down, then added across, and then cross-checked - and if you make one little mistake, a clerk can spend a long time trying to find it. And if we can utilize any of our computer analysis in making this up, I'm all for it. But as of now it's kind of a pick-and-shovel proposition.

CHAIRMAN WRIGHT: It would sure simplify things if you could.

MR. JIBSON: Yes. We always welcome suggestions on this report. Some of you will recall the first report that was published was a joint effort of Jay Bingham and myself, and we decided after looking at interstate river commission reports all over the country that this was the format that we ought to have to show really for the record what happened during the year or the biennium. And since that first report 25 years ago, we have followed the same format. I, personally, am always open to suggestions

to ways of improving it. It's not a beautiful-type report. The only pictures we run are those of deceased Commission members, and their not exactly the kind of picture that you glance at in a report. (laughter) But we do it the cheapest we can, too.

DISCUSSION OF AMENDMENTS TO BY-LAWS

CHAIRMAN WRIGHT: I guess our next item is a discussion of amendments to the by-laws.

MR. LAWRENCE: I have had Connie go through all of the minutes of the meetings for several years back - and Wally and Connie and I were on the telephone for an extensive time the other day - and we have typed up now what I think is pretty darn close to the by-laws as they have been approved. And you have your blue copies. These are obsolete. The February 1955 copy you have is actually the same insides as the 1968 printing. 1968 is the last printing, and they're obsolete. And I think that for all intents and purposes this type copy now is the by-law.

I went through, then, our informal meeting that we had two weeks ago and took the minutes of that meeting and discovered, as far as I could tell, only three items of the by-laws that we considered ought to be amended. So if you'll look at the pink issue, and on the pink slips we have only the articles that I think have some possibility of being amended. If we decide that we need to amend the by-laws to match the pink, then it's our counsel from Mr. Skeen that we would have to publish these well in advance of the meeting at which we intend to adopt them. Now that could be in the November meeting, or you might decide that they're not as urgent as we once felt they were and they could even be made in an April meeting.

There are one or two items that I would like to discuss before we go to the pink ones, though. There's a by-law about the states certifying membership to the Commission. Where is that? It ought to be the very first one.

MR. JIBSON: Number 2 on page 1, you mean?

MR. LAWRENCE: Yes; that's right. We ran out of copies. Maybe we can get you one.

MR. JIBSON: How many are we short down there, Russ? Just one?

MR. LAWRENCE: Article I, paragraph 1, tells the make-up of the Commission. Paragraph 2 says, "credentials of each Commissioner shall be filed with the Secretary of the Commission." And I think we haven't been doing that as carefully as we ought to. So in that regard, did we mail the Commissioners the mailing list? Did you all get the mailing list?

MRS. BORROWMAN: I gave it to them just now.

MR. LAWRENCE: You all have a mailing list, and I wish that you would call this to the attention of your appointing body - your Water Board, or your Governor, or whoever appoints Commissioners to the Bear River Commission - and furnish me, as the Secretary, with an up-date list of the Commissioners and advisers. There's somewhere a paragraph that says that you can have three Commissioners and up to three advisers. Where's the paragraph that says that?

MRS. BORROWMAN: Item 3.

MR. LAWRENCE: So would you do that for me? Then these credentials ought to come by the appointing body. In other words, I think it's been fairly traditional that the Governor write the letter to the Secretary of the Commission indicating changes in your Commissioners. So far as I know, we haven't had a notice of Mr. Wallentine's appointment in writing yet.

MR. WALLENTINE: How did you receive that, Connie? You told me in the letter before that you had. Was that just from Ken Dunn's office?

MRS. BORROWMAN: A girl from Ken's office; and I don't know. Just a secretary, I guess, called and asked that I send you a copy of the Compact, and gave me your address and said you were the new Commissioner.

MR. WALLENTINE: Okay; and you would like a letter from the Governor?

MR. LAWRENCE: Well, if the Governor makes the appointments, I think that would be best.

MR. WALLENTINE: You don't want a copy of his letter to me, you want him to notify you.

MRS. BORROWMAN: Notify the Commission.

MR. JIBSON: This is not a change in the by-laws; it should go to the Secretary. In the past when we did get a letter, it usually came to the Chairman. But the by-laws say that notice should go to the Secretary - the credentials. And the last appointment that was made, Blair's, Governor Matheson sent me the credential on that.

MR. LAWRENCE: In the case of Utah, my Board makes the appointment and then it's concurred in by the Governor, and he generally sends that out.

MR. JIBSON: Dan, let me back up just a little bit. You said that each one is allowed three advisers?

MR. LAWRENCE: It said that when I read it the other day.

MR. JIBSON: Ken referred to paragraph three. I haven't found that yet.

CHAIRMAN WRIGHT: I haven't either.

MRS. BORROWMAN: That's in the Compact, isn't it, rather than the by-laws?

MR. LAWRENCE: Yes, it is. It's sometimes helpful to re-read your documents once in a while.

Article III of the Compact. It says:

> There is hereby created an interstate administrative agency to be known as the 'Bear River Commission' which is hereby constituted a legal entity and in such name shall exercise the powers hereinafter specified. The Commission shall be composed of nine Commissioners, three Commissioners representing each signatory State, and if appointed by the President, one additional Commissioner representing the United States of America who shall serve as chairman, without vote. Each Commissioner, except the chairman, shall have one vote. The State Commissioners shall be selected in accordance with State law. . . .

And it does not mention it in the Compact, but under Article IV paragraph 11 it's in the By-laws.

MR. MYERS: Well now what about these advisers, Dan? What is their status?

MR. LAWRENCE: It says - let's see if we can read on here.

> . . . The State Commissioners shall be selected in accordance with State law. Six Commissioners who shall include . . .

Somewhere I've read in the last week that a State may appoint someone to sit for the Commissioner.

MRS. BORROWMAN: Under Article IV, MEETINGS, in your by-laws, Item 6.

MR. LAWRENCE: The status, Wes, is:

> Six Commissioners who shall include two Commissioners from each state shall constitute a quorum, provided that an absent member may be represented by his proxy who must be an accredited adviser from his state, and such proxy shall have the powers of a member at such meeting.

That's the way it's written here. If we want to change it---- So actually Utah should have had three, or up to three, accredited advisers - in our case it would be the two alternates and one adviser. We have under our law an alternate Upper Commissioner, and an alternate Lower Commissioner, and vice versa.

MR. MYERS: You have two alternate Commissioners?

MR. LAWRENCE: Yes.

MR. MYERS: Well is that up to each state to do that?

MR. LAWRENCE: Yes. Up to three, it says.

MR. JIBSON: Well that's implied, because you've got three Commissioners and you've got to have two for a quorum, but each Commissioner could be represented by an alternate. So it's implied then that you can have three alternates, but I don't think it's actually stated.

MRS. BORROWMAN: It says somewhere, because we read it this week.

MR. LAWRENCE: Well in the by-laws it says, "Each Government may accredit three advisers to the Commission."

MR. MYERS: That's right. But is there a difference between advisers and alternate Commissioners?

MR. LAWRENCE: Yes; it says that an adviser can serve as a proxy for a voting Commission member.

MR. MYERS: Then do you have alternate members besides advisers, or are they the same?

MR. LAWRENCE: We have also advisers, but I guess they're not accredited if you read the by-laws to the strictest point. They advise the Utah delegates, but they don't serve in any legal way in a Commission meeting unless they're serving as proxy for a Commissioner.

MR. MYERS: Well the advisers may be alternate Commission members if they are so designated, but you may have three advisers and as many as three other alternate committee members according to the way the state sets it up.

CHAIRMAN WRIGHT: Well that doesn't mean that you have to, it says that you may. If you elect not to I guess it would be alright.

MR. JIBSON: The nearest thing to that, Connie, is paragraph 3 of Article V.

CHAIRMAN WRIGHT: Dan, is this an amended document? Are there differences in this document, or is there some previous document?

MR. LAWRENCE: Okay; yes. This is an up-dated printing of amendments which have been made to it since the last printing. 1968 was the last time this was printed in this form. And I guess what we were trying to work to is to print more copies of the Compact and the by-laws, and we thought that it ought to be up-dated. We have the 1980 Compact. I suppose one day we'd like to adopt this as the official by-law, since it has never been in this form before today.

CHAIRMAN WRIGHT: Is there a committee on this?

MR. LAWRENCE: I just did it by myself, and there is no standing committee assigned to handle it. It needs to be treated here probably as an item of next meeting to accept not only any amendments we make, but this as the official by-law.

CHAIRMAN WRIGHT: It seems sort of dumb to have three advisers and the opportunity of three alternates.

MR. SKEEN: There's no provision for alternates at all in the by-laws or the Compact. In the by-laws each state is entitled to three advisers. If one adviser is given a proxy, he might be considered an alternate, but that word isn't in the by-laws as I recall. I think they ought to be worked over before the next meeting, and maybe a committee formed.

MR. JIBSON: Dan, the last paragraph in Article IV is the one we were trying to find. It seems to me if that's confusing, we ought to forget about alternates and leave it as the by-laws now designate it as advisers.

MR. SKEEN: Well then they'd be a proxy for a member of the Commission in the event of his absence.

CHAIRMAN WRIGHT: What you're suggesting, Ed, is just to revise this to present it at the November meeting. Then if there are further additions or corrections or changes you want to make, to form a committee?

MR. SKEEN: Now I think a committee ought to be considering it between now and the November meeting. We'd have to send a copy of the proposed by-laws out at least 10 days before the November meeting with a notice of the meeting. Then they could be officially acted on.

CHAIRMAN WRIGHT: Dan, how would that work? Would we have a representative on the committee from each state?

MR. SKEEN: Well I think it'd be a good idea to have one from each state on the committee for consideration.

CHAIRMAN WRIGHT: Are there any volunteers? (laughter)

MR. LAWRENCE: In the Compact, under Article III, we have the provision where someone can vote in the case that a member of the Commission is not here.

MR. JIBSON: It's paragraph 6 in Article IV.

MRS. BORROWMAN: And it says here a "proxy who must be an accredited adviser".

MR. JIBSON: I believe the by-laws are consistent. We can just forget about this name 'alternate'.

MR. SKEEN: The word 'alternate' is just developed some way . . .

MR. LAWRENCE: . . . just developed by Utah law since 1955.

CHAIRMAN WRIGHT: Dan, what would the committee do?

MR. SKEEN: Well I'd say the committee would review the present by-laws and these on the pink slip that are suggested as amendments, and come up with any proposals to submit to the Commission at the November meeting.

I think they ought to be studied carefully, and I'd suggest that if one man's appointed from each state I'd be glad to confer with them as attorney for the Commission and help get them in shape for presentation.

CHAIRMAN WRIGHT: Well, if anybody would like to offer their services by state . . .

Anyone from Idaho?

MR. WALLENTINE: We're just talking here. We're wondering - in the past hasn't this been done, Wally, by our State people rather than by Commissioners so we could get the okay from the Governor's office? Would you say Ken Dunn should be our man?

MR. JIBSON: I'd think so.

MR. LAWRENCE: I think Ken and George and I could get together.

MR. WALLENTINE: That's the place I think it should be done

CHAIRMAN WRIGHT: So those three would serve.

MR. LAWRENCE: Why don't you do this then - why don't you take your copies and read them carefully and get on the phone to your State people and ask all the questions that come to your mind. Read your Compact and your by-laws and see if they agree.

CHAIRMAN WRIGHT: And make it simple.

MR. HOLMGREN: Mr. Chairman, I'm wondering about these alternates and advisers. We in Utah have an Alternate Commissioner, and it goes without saying that he takes over, if I understand correctly, when the other Commissioner isn't there; he has a vote. He comes to everyone of our meetings without any question. Suppose you eliminated an alternate and said, "Well, we have three advisers." I think that'd be a little confusing. You'd have to have at least one adviser that you would designate to be to every meeting, I think, just as our alternate does. And he should have a standing invitation and be entitled to vote in case the Commissioner isn't there. Wouldn't it be a little confusing to go this other way and then have these advisers?

MR. LAWRENCE: It would to Utah. That's why we read it this way, that it doesn't say Utah's Alternate will automatically . . .

MR. HOLMGREN: I was wondering in the by-laws if we shouldn't change those advisers to alternates. Instead of having advisers put in there each state should have at least one alternate who, without being designated, is automatically entitled to vote or take the place of the Commissioner.

MR. SKEEN: Well the entitlement to vote must be established by our by-laws in this Commission. State law has nothing to do with it.

MR. LAWRENCE: What he's saying is that we should establish that as the basis that when Paul's absent, his designated alternate is automatically accredited.

MR. SKEEN: If it controls the right to vote, it should be in our by-laws.

CHAIRMAN WRIGHT: It's just sort of a quibbling of names and titles.

MR. SKEEN: It really is.

CHAIRMAN WRIGHT: Why not call advisers Alternates so it doesn't conflict with the Utah setup.

MR. SKEEN: I don't know what other states call them - whether they have alternates or advisers or anything.

MR. MYERS: I was wondering about this situation. Say you have this alternate - it doesn't matter to me whether you call them alternate or adviser, though I'd lean to the alternate because I don't know what an adviser's business is. Now on our Water Development Commission in Wyoming we have advisers and we have Commission members. But the advisers are the people like Dan would be if he were in Wyoming, that can give you a lot of information and help. They're not a voting member.

But there's also an item there that says that by proxy you can represent somebody else. That's got to be covered. And is it a written proxy or do you just say, "Will you happen to be here today? If the Commission don't object, why you can vote." Or how are we going to handle that then? We've got to dwell on that a little.

MR. LAWRENCE: I think that's the key to it, that we've got to decide whether this proxy is in a Commission-accepted form and in writing for the day of the meeting and handed to the Secretary before the meeting.

MR. MYERS: When you're studying it, that's a point that's got to be covered because we have that problem with our own group here today.

MR. BOLSCHWEILER: My thought, gentlemen, is that an adviser and an alternate should be two different people. Because in our State I've noticed over the past years sometimes an adviser is a person, as Wes says - it may be an attorney from our Attorney General's Office on one particular thing which he is advising us on, or another staff member of the State Engineer's office who is advising. But those people can't be here all the time, so we need alternates to fill in when they can't be here. But we need the advisers to give us that advice when any particular thing comes up.

MR. JIBSON: Mr. Chairman, it seems to me that paragraph 6 of Article IV takes care of part of this question you raise, Wes, in which they say, "provided that an absent member may be represented by his proxy who must be an accredited adviser from his state, and such proxy shall have the powers of a member at such meeting". Now if you have an accredited adviser, he could sit in place of one of the regular Commissioners.

CHAIRMAN WRIGHT: But I think what we get down to is that there are no advisers from Utah; they're alternates. So there's got to be sort of a horizontal title that applies to all three states that one of those three, whatever they are, can step in and vote for a missing Commissioner. And what the heck - if they call them alternates or advisers. But if Utah has a problem, then we ought to call them alternates.

MR. SKEEN: The problem is pretty well out on the table, and we ought to have this committee consider some language. It may be that we'd want to use the word 'alternate' instead of proxy. That's something that ought to be studied after we've reviewed the various State laws on the subject and the by-laws, and I'd suggest we simply assign that to a committee. I don't think we can talk about it and beat the animal to death any more than we have to.

CHAIRMAN WRIGHT: I agree. So that committee will present it at the next meeting. Should I get approval for that formation of this committee? Is there a Motion for those members who have been identified?

MR. FRANCIS: I move we appoint - Dan, George, and Ken for the Committee to review the by-laws.

CHAIRMAN WRIGHT: Is there a second?

MR. GILBERT: I second.

CHAIRMAN WRIGHT: All those in favor? Opposed?

MOTION CARRIED

MR. MYERS: One thing you probably ought to put - 'this group or his designee' - because George Christopulos might not be able to come to some of these meetings and we wouldn't want to hold it up.

MR. FRANCIS: I'll agree to Wes' amendment.

OTHER BUSINESS

CHAIRMAN WRIGHT: Is there any further business? No further business?

AGENDA FOR REGULAR MEETING

CHAIRMAN WRIGHT: What is the 'Agenda for the Regular meeting'?

MR. LAWRENCE: Well, the agenda is outlined in the by-laws, but we did some of the things in this Special meeting that we ordinarily would do in the Regular meeting in November. I had some question in my mind as to whether we would want to hold a Regular meeting since we've had this meeting. We could do this by-law thing in the April Annual meeting, or we could do it in the November Regular meeting, at the pleasure of this Commission - whether you want to come back again Monday after Thanksgiving, which is the Regular meeting time.

CHAIRMAN WRIGHT: What do we have to discuss?

MR. JIBSON: The only thing, Mr. Chairman, that I can think of - each meeting we present to the Commission a summary of applications for appropriation, which is provided by each of the three State Engineers. It's in the form of a number of applications, and we didn't have that by

today. However, as I mentioned earlier, if you want to do away with the November meeting we could have the State Engineers forward that and we could attach it to the Minutes of this meeting today so that everyone would have it as a matter of record. And as far as I'm concerned that is the only thing that we're missing today that should be done in the Regular Meeting.

CHAIRMAN WRIGHT: Is there any comment or consensus to that?

MR. HOLMGREN: I agree. We don't have anything to do with the budget or anything.

MR. MYERS: Well I will move in the absence of something in an emergency nature, that we dispense with the Regular November meeting, and attach the new water right applications to the Minutes as suggested.

CHAIRMAN WRIGHT: Second?

MR. WALLENTINE: I second it.

CHAIRMAN WRIGHT: All those in favor? Opposed?

MOTION CARRIED

CHAIRMAN WRIGHT: We will dispense with the November meeting.

Is there a movement to adjourn?

MR. HOLMGREN: I move we adjourn.

MR. GILBERT: Second.

CHAIRMAN WRIGHT: All in favor?

MOTION CARRIED

Meeting adjourned at 1:30 p.m.

BEAR RIVER COMMISSION
880 River Heights Blvd.
Logan, Utah 84321

October 3, 1983

ENGINEERS REPORT

Wallace N. Jibson

1983 Water Supply and Compact Operation

Water Supply

While the Wasatch Front, Great Salt Lake, and Lake Thistle were in the news each day, Bear River runoff also was setting some new records and causing concern as the accumulated runoff converged on Bear Lake. Peak flows in the upper watershed, though record high in some areas, were not as impressive as the volumes that moved down the river for most of the season following the peaks. Snowmelt peak out of the Uintas in the 2,700 cfs range has been exceeded a few times in the 42-year record at the Utah-Wyoming Stateline gage, the peak of record being 2,980 cfs in 1968. Following a forecast of 80 percent seasonal flow, Smiths Fork yielded a record peak of 1,850 cfs and stayed well above average for the rest of the season.

Inflow to Woodruff Narrows Reservoir reached a daily high of 3,760 cfs on June 2nd or about 400 cfs higher than the previous peak, and this was the story as we move downstream with overbank flow spread out for half a mile at the Wyoming-Idaho Stateline where 5,500 cfs was measured as compared to a previous peak in 1952 of 3,700 cfs.

The hydrograph of Bear Lake (page 3) shows the low point in April at 5,919.01 feet which is at least a foot higher than the level aimed for in years of normal snowpack. Subsequently, the Power Company had no choice but to bypass relatively large flows down the old Bear River channel past Stewart Dam and divert much larger flows from Mud Lake into the Outlet Canal. Because of this bypass, the Lake levelled off at a peak of 5,923.46 feet on July 9th, just 0.2 of a foot below the high of record. The Lake remained near this level through July and by late August had dropped less than half a foot reaching September at the highest level for this date since 1921 the beginning of record. Not surprising then, is that the water-year flow in the Rainbow Inlet Canal will approach 750,000 acre-feet or 28 percent above the previous high.

By not being able to store in Bear Lake all the upper basin snowmelt runoff, a record volume then reached the lower river causing flooding in Box Elder County and multiplying the problems on Great Salt Lake. Water-year flow below Cutler Dam had reached 2,238,000 acre-feet by the end of July, so by the end of September, the volume will have been only slightly lower than the record high of 2,556,000 acre-feet in 1907 before Bear Lake was a part of the system.

The Power Company undoubtedly will maintain the highest practical release from Bear Lake (now about 1,650 cfs) throughout the winter. Woodruff Narrows Reservoir continued to spill as of September 30th, Woodruff Creek Reservoir was only 1½ feet below spillway, Sulphur Creek Reservoir was carrying over about 5,700 acre-feet of its 7,088 capacity, and Whitney Reservoir held in storage about 3,300 acre-feet of its capacity of 4,740 acre-feet. So, Bear Lake will not get much assistance from upstream reservoirs. Then to, recent storms have saturated in most areas the soil mantle as snowcover approaches, so the stage could be set for another booming year.

Compact Operation

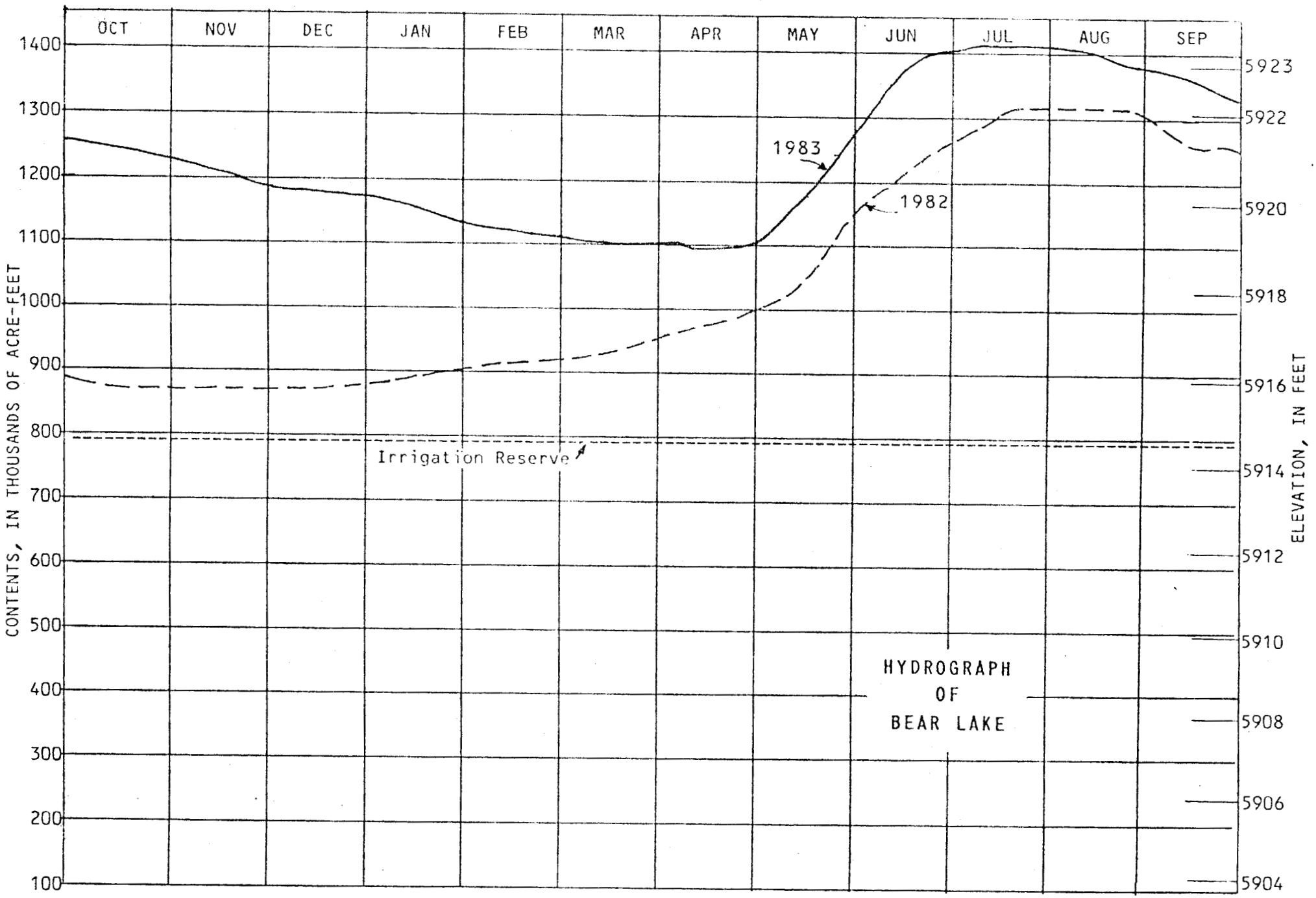
Divertible flow in the Central Division dropped below the Compact Water Emergency condition of 870 cfs for just a few days in late September. Flow passing the Border gage remained at least 200 cfs higher throughout September than the 350 criterion. This would have to be a first since operation began in 1958. Divertible flow in the Upper Division dropped below the Water Emergency condition of 1,250 cfs late in the season and after three of the four sections in this Division had ceased irrigation for haying operations.

Budget

I have attached a copy of the approved budget for 1984 as it was amended in the April meeting. A small reduction of $320 was made to reflect a change in the cost per gaging station from $3,750 to $3,740. This page should have been attached to minutes of the April meeting.

Applications for Appropriation

Filings for appropriation were not requested for this Special Meeting of the Commission.


OCT
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CONTENTS, IN THOUSANDS OF ACRE-FEET
5923
5922
5920
5918
5916
5914
5912
5910
5908
5906
5904
ELEVATION, IN FEET
1983
1982
Irrigation Reserve
HYDROGRAPH
OF
BEAR LAKE

BEAR RIVER BUDGET FOR STREAM GAGING AND COMPACT ADMINISTRATION

Fiscal Year Ending September 30, 1984

April 18, 1983 (Amended)

Detail of Budget	Stream-Gaging Allocation (Cooperative Agreement)	Administrative Allocation (Direct Expenditure	Total Budget
(1) Personal Services (USGS)	$ 59,480	$ 0	$ 59,480
(1a) Personal Services (Engineer)	0	8,600	8,600
(2) Travel & Subsistence (USGS)	14,580	0	14,580
(2a) Travel & Miscellaneous (Engineer)	0	400	400
(3) Fiscal & Administ. (USGS, SLC)	21,600	0	21,600
(4) Washington Service Chge (USGS)	10,800	0	10,800
(5) Rental Office-Storage (USGS)	(see Item (3) above)		0
(6) Digital Recorders (Rental, USGS)	1,762	0	1,762
(7) Supplies, Computer, Publ., Misc.	11,458	200	11,658
(8) Biennial Report (Commission)	0	0	0
(9) Treasurer Bond & Audit (Commission)	0	500	500
(10) Printing & Reprod. (Commission)	0	100	100
(11) Legal Retainer & Fees (Commission)	0	500	500
(12) Contractual Service (Consumpt. use)	0	36,120	36,120
TOTAL	$119,680	$ 46,420	$166,100
Allocation of Budget			
U.S. Geological Survey	$ 59,840	$ 0	$ 59,840
Bear River Commission	59,840	46,420	106,260**
TOTAL	$119,680*	$ 46,420	$166,100

*32 gaging stations at $3,740 per station year
**$35,420 per state or $29,000 per state and $19,260 from reserve
$23,380 per state if Consumptive Use Study is deleted.

WITH MINUTES OF

Presented to Commission: MEETING, 10/3/83

Applic. Number	Date of Filing	Name	Source	Use	Location		Amount (cfs)	Act'n
			STATE OF WYOMING					
UW 17-2-68	2-23-83	AMOCO	GROUND WATER	IND.(TEMP)	S1T18NR120W	UINTA	0.334	APP.
UW-17-2-163	6-7-83	SOHIO PETROLEUM	GROUND WATER	IND.(TEMP)	S14T21NR119W	LINC.	0.055	APP.
UW 17-3-163	6-7-83	SOHIO PETROLEUM	GROUND WATER	IND.(TEMP)	S35T21NR119W	LINC.	0.055	APP.
UW 17-12-177	6-17-83	AMOCO	GROUND WATER	IND (TEMP)	S4T18NR120W	UINTA	0.334	APP.
UW 17-1-254	9-6-83	AMOCO	GROUND WATER	IND (TEMP)	S1T13NR121W	UINTA	0.334	APP.
UW 17-11-253	9-6-83	APACHE CORP.	GROUND WATER	IND (TEMP)	S33T19NR120W	LINC.	0.223	APP.
UW 17-6-246	8-26-83	AMOCO	GROUND WATER	IND (TEMP)	S5T13NR120W	UINTA	0.334	APP.
UW 17-9-36	1-6-83	AMOCO	GROUND WATER	IND (TEMP)	S 22T20NR120W	LINC.	0.334	APP.
UW 17-10-174	6-14-83	GETTY OIL CO.	GROUND WATER	IND (TEMP)	S 5T18NR120W	UINTA	0.223	APP.
UW 17-12-213	7-25-83	CHEVRON	GROUND WATER	IND (TEMP)	S12T13NR121W	UINTA	0.055	APP.
UW 17-5-246	8-26-83	AMOCO	GROUND WATER	IND (TEMP)	S31T14NR120W	UINTA	0.334	APP.
UW 17-12-222	8-2-83	AMOCO	GROUND WATER	IND (TEMP)	S 35T13NR121W	UINTA	0.223	APP.
UW 17-9-239	8-19-83	CONOCO	GROUND WATER	IND (TEMP)	S27T22NR117W	LINC.	0.334	APP.
25 5/37	8-4-83	EXXON	GROUND WATER	IND (TEMP)	S10T19NR120W	LINC.	0.44	APP.
25 2/58	9-16-83	SOHIO	GROUND WATER	IND (TEMP)	S11T21NR119W	LINC.	0.78	APP.
24 3/382	4-27-83	WY. HIWAY DEPT	GROUND WATER	IND (TEMP)	S12T21NR120W	LINC.	1.00	APP.
25 1/1	6-13-83	GULF OIL	GROUND WATER	IND (TEMP)	S4T21NR119W	LINC.	0.44	APP.
24 4/375	4-6-83	ROCKY MTN ENERGY	GROUND WATER	IND (TEMP)	S18T15NR120W	UINTA	1.11	APP.

TOTAL SURFACE WATER, WYOMING..... APPROVED 3.77 CFS
TOTAL GROUND WATER, WYOMING..... APPROVED 3.172 CFS

SUMMARIES ALSO SUBMITTED FOR 1.872 CFS PREVIOUSLY PRESENTED AS 'PENDING', NOW 'APPROVED'
SUMMARIES ALSO SUBMITTED FOR 9.719 CFS PREVIOUSLY REPORTED AS TEMPORARY, NOW CANCELLED

Presented to Commission: WITH MINUTES OF MEETING, 10/3/83

Applic Number	Date of Filing	Name	Source	Use	Location		Amount (cfs)	Act'n
			STATE OF IDAHO					
11-7309	2-9-83	VALLEYVIEW SUBDIV.	GROUND WATER	IRR(Subd)	S2T9SR41E	CARIBOU	0.20 cfs	APP.
11-7311	3-9-83	B.L. SCHOOL DIST.	GROUND WATER	IRRIG	S34T12SR44E	BEAR L.	).44	"
11-7312	3-22-83	VIRGIL EMPEY	GROUND WATER	IRRIG	S19T9SR42E	CARIB.	0.10	"
11-7313	4-15-83	ROGER EMPEY	GROUND WATER	IRRIG	S19T9SR42E	CARIB.	0.16	"
11-7314	5-2-83	L.S. BOATRIGHT	SPRINGS	IRRIG	S10T9SR41E	CARIB.	0.36	"
11-7315	5-9-83	THOMAS JONES	GROUND WATER	IRRIG	S34T12SR44E	BEAR L	0.02	"
11-7316	5-9-83	N. JACOBSON	GROUND WATER	IRRIG	S11T16SR43E	BEAR L	0.04	"
11-7317	5-24-83	BENNINGTON WATER	SPRING	MUNIC	S10T12SR44E	BEAR L	0.13	"
11-7318	6-2-83	D.J. JACOBSON	GROUND WATER	IRRIG	S11T16SR43E	BEAR L	0.04	"
11-7319	6-21-83	D. BOLLAR	GROUND WATER	IRRIG	S9T9SR42E	CARIB.	0.54	"
11-7321	6-15-83	BURTON LUDWIG	GROUND WATER	IRRIG	S34T11SR43E	BEAR L	0.12	"
11-7323	6-28-83	B.L. LODGE ESTATES	GROUND WATER	MUNIC	S14T16SR43E	BEAR L	0.17	"
11-7324	7-13-83	WARREN LEE	GROUND WATER	IRRIG	S27T16SR43E	BEAR L	0.03	"
11-7325	7-28-83	P. ETCHEVERRY	GROUND WATER	IRRIG	S22T13SR46E	BEAR L	0.80	"
11-7326	8-8-83	F.B. McFARLAND	UNNAMED STREAM	IRRIG	S16T10SR42E	CARIB.	0.60	PEND
13-7387	3-25-83	C. JORGENSEN	TROUT CR.	POWER	S10T11SR41E	CARIB.	20.00	PEND
13-7389	4-7-83	LAVELL KOLLER	GROUND WATER	IRRIG	S24T16SR38E	FRANK.	3.00	APP.
13-7390	5-5-83	NEIL DUFF	GROUND WATER	IRRIG	S30T14SR40E	FRANK.	0.06	"
13-7391	5-12-83	MERRILL HUBBARD	SPRINGS	IRRIG	S21T10SR41E	CARIB.	0.02	"
13-7392	5-27-83	WAYNE SMART	GROUND WATER	IRRIG	S16T14SR38E	FRANK.	2.96	"
13-7398	6-13-83	CHARLES IZATT	SPRINGS	IRRIG	S32T11SR40E	CARIB.	1.20	"
13-7399	6-23-83	WM COOMBS	SPRINGS	IRRIG	S1T12SR40E	CARIB.	0.09	"
13-7401	7-14-83	BRUCE NAYLOR	GROUND WATER	IRRIG	S2T15SR38E	FRANK.	2.00	"
13-7403	8-17-83	WAYNE JONES	GROUND WATER	IRRIG	S23T14SR38E	FRANK.	0.40	"
13-7404	8-17-83	WAYNE JONES	SPRING	IRRIG	S23T14SR38E	FRANK.	0.02	"
13-7407	7-26-83	GARY MILLER	GROUND WATER	IRRIG	S11T10SR40E	CARIB.	0.09	"
15-7088	4-27-83	MYRON JONES	GROUND WATER	IRRIG	S33T12SR36E	ONEIDA	3.20	"
15-7090	5-25-83	WALTER JONES	GROUND WATER	IRRIG	S31T14SR36E	ONEIDA	1.81	"
15-7091	5-25-83	WALTER JONES	SPRING	IRRIG	S31T14SR36E	ONEIDA	0.20	"
15-7094	6-7-83	LDS CHURCH	GROUND WATER	IRRIG	S14T15SR35E	ONEIDA	0.04	"
15-7096	7-22-83	F. FURGESON	GROUND WATER	IRRIG	S14T15SR35E	ONEIDA	0.04	"

SURFACE WATER TOTAL, 20.6 CFS PENDING AND 2.02 CFS APPROVED. GROUND WATER TOTAL, 16.26 CFS APPROVED

CHANGE IN STATUS, PAST SIX MONTHS OF PREVIOUSLY REPORTED APPLICATIONS.

5.67 CFS (INCLUDING 5.27 CFS GROUND WATER) FROM PENDING OR APPROVED TO LICENSED.

4.1 CFS AND 15.0 ACRE-FT OF SURFACE WATER AND 16.64 CFS OF GROUND WATER WITHDRAWN OR LAPSED.

APPLICATIONS TO APPROPRIATE WATER
BEAR RIVER DRAINAGE

STATE OF UTAH

Presented to Commission: WITH MINUTES OF MEETING, 10/3/83

AREA CODE	DATE OF FILING	NAME	SOURCE	USE	LOCATION	AMOUNT (CFS)	ACTION
			STATE OF UTAH				
21-1510	08-04-83	ANSCHUTZ Land & Livestock	UGW	Industrial	Sec06T05N,R08E Sum	0.5	Pend
25-8488	04-05-83	KOLLER, Evan O. & Marlene	Pearson Spr	D/S/I	Sec08T14NR01W Cac	0.5	Pend
25-8496	06-27-83	CLAWSON, Darwood	UGW-Well	Irrigation	Sec09T10NR01E Cac	0.5	Pend
25-8497	05-03-83	HANSEN, R. Craig	UGW-Wells (3)	D/S/I	Sec30,19T12NR1W "	0.1	Pend
25-8500	05-13-83	Prov.City Corp & Spr. Creek Water Co.	Spring Creek	Power	Sec18T11NR02E Cac	8.0	Pend
25-8501	05-19-83	Corp of Pres. LDS Church Logan, UT	Unnam Spr/Drn	D/S/I	Sec32T12NR01W Cac	0.5	Pend
25-8503	05-25-83	McKEAN, Gary O. & Naomi	UGW-Well	S/I	Sec14T12NR01E Cac	0.1	Pend
25-8504	05-27-83	WINN, A. Ray	UGW-Well	D/Ind/Mill	Sec33T13NR01E Cac	0.1	Pend
25-8505	06-02-83	BINGHAM, Ada W.	UGW-Drain	S/I	Sec12T13NR01W Cac	0.5	Pend
25-8506	06-10-83	KOLLER, Evan O. & Marlene	Pearson Spr	Power	Sec08T14NR01W Cac	1.0	Pend
25-8507	06-10-83	KOLLER, Evan O. & Marlene	Griffith's S.	Power	Sec17T14NR01W Cac	1.0	Pend
25-8508	06-30-83	LEASURE, Lynn V	UGW-Well	D/S/I	Sec24T14NR01E Cac	0.1	Pend
25-8512	07-11-83	HARRIS, Burton H./Trust	UGW-Well	D/I/Shop	Sec14T12NR01E Cac	0.25	Pend
25-8514	11-08-83	North Logan City Corp.	Spr/Pend App.	Power	Sec24T12NR01E Cac	4.0	Pend
25-8515	11-07-83	PETERSEN, Vernon	UGW-Well	D/S/I	Sec29T12NR01W Cac	0.25	Pend
25-8518	11-18-83	NEILSON, Lewis C.	Grn. Can. Str	Irrigation	Sec24T12NR01E Cac	1.0	Pend
25-8521	08-03-83	RICKS, Clayne J.	UGW-Drain	Irrigation	Sec11T12NR02W Cac	0.15	Pend
25-8522	08-01-83	OLSEN, Frank P. & JACKSON, LeRoy	Unnamed Spr	Irrigation	Sec01T09NR01E Cac	1.5	Pend
25-8523	08-01-83	GIBBONS, Tim	Unnamed T.Drn	S/Irr.	Sec11T11N40IE Cac	1.0	Pend
25-8524	11-29-83	LEASURE, Lynn V.	Unnamed Spr	D/S/I/Pond	Sec24T14NR01E Cac	0.1	Pend
25-8528	08-17-83	PARKER, Jon	UGW-Well	Irrigation	Sec16T10NR01E Cac	0.1	Pend
25-8531	08-24-83	WARD, J. Spencer	Drn.SeepArea	S/Irr.	Sec04T10NR01E Cac	0.1	Pend
25-8532	08-23-83	GRAHAM, Michael J. & WALKER, Jordan R.	Logan River	Power	Sec36T12NR01E Cac	150.0	Pend
25-8533	08-23-83	GRAHAM, Michael J. & WALKER, Jordan R.	Logan River	Power	Sec26,32T12NR02E "	125.0	Pend
25-8535	09-22-83	SPIERS, Bernard W.	UGW-Well	S/Irr	Sec19T12NR01E Cac	1.0	Pend
25-8537	09-29-83	BALLARD, Troy	UGW-Well	D/S/I	Sec02T12NR01W Cac	0.30	Pend
25-8538	11-08-83	SALVESEN, Mervin	Unnamed Spr	D/S/I	Sec02T10NR01E Cac	0.5	Pend

APPLICATIONS TO APPROPRIATE WATER
BEAR RIVER DRAINAGE

STATE OF UTAH

Presented to Commission: WITH MINUTES OF MEETING, 10/3/83

AREA CODE	DATE OF FILING	NAME	SOURCE	USE	LOCATION	AMOUNT (CFS)	ACTION
			STATE OF UTAH (CONTINUED)				
29-2845	05-20-83	Plymouth Town Corp.	UGW-Drains	Irrigation	Sec12T13NR03W BE	2.0	Pend
29-2848	06-02-83	BAUGH, Ronald M.	UGW-Drains	Power	Sec12T13NR03W BE	3.0	Pend
29-2951	06-21-83	BOURNE, Charles H.	Corinne Canal	Power	Sec6,7,18 T12NR02W BE	250.0	Pend
29-2956	11-08-83	Tremonton City Corp.	Unnamed Spr.	Municipal	Sec04T11NR02W BE	2.0	Pend
29-2957	07-26-83	Baty Brothers, Inc.	Sandhole Spr	D/S/I	Sec23T10NR02W BE	0.5	Pend
29-2959	11-29-83	WESTMORELAND, Loyal/Trust	UGW-Well	D/I/Incid.	Sec06T11NR03W BE	0.2	Pend
29-2960	08-02-83	MOORE, Alfred J.	UGW-Well	Irrigation	Sec10T11NR03W BE	0.10	Pend
29-2965	08-18-83	BARKER, Don C.	UGW-Well	S/Irr.	Sec14T08NR02W BE	1.0	Pend
29-2969	09-01-83	WARREN, Keith W.	Unnamed Spr	D/S/I	Sec22T10NR02W BE	0.1	Pend
29-2970	06-06-83	COOMBS, Theo S.	UGW-Well	S/Irr	Sec20T14NR03W BE	4.0	Pend
29-2971	09-29-83	PATTERSON, James T.	Unnamed SprAr	Irrig/Power	Sec04T11NR02W BE	2.0	Pend
29-2973	10-14-83	ESKELSEN, Richard M.	Low.Bear Riv	Irrigation	Sec36T09NR02W BE	0.10	Pend
29-2975	10-21-83	BUTLER, Clark	Dewey SprStr	Fish Cult	Sec17T11NR02W BE	2.0 AF	Pend
29-2976	10-28-83	Bear River Water Dist/Sys	Bear River	Power	Sec26T13NR02W BE	900.0	Pend

	PENDING
TOTAL SURFACE WATER FOR CONSUMPTIVE USE (UTAH)	10.40 cfs
TOTAL SURFACE WATER, INCLUDING POWER (UTAH)	1449.40 cfs
TOTAL GROUND WATER (UTAH)	14.25 cfs
TOTAL STORAGE (FISH CULTURE (UTAH)	2.0 acre-feet