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UPPER COLORADO RIVER BASIN

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HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND POWER RESOURCES

OF THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS UNITED STATES SENATE

NINETY-SECOND CONGRESS

SECOND SESSION

ON

S. 3283 and S. 3287

BILLS TO INCREASE THE AUTHORIZATION FOR APPRO-
PRIATION FOR CONTINUING WORK IN THE UPPER COLO-
RADO RIVER BASIN BY THE SECRETARY OF THE INTERIOR

APRIL 12, 1972



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STATEMENT

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UPPER COLORADO RIVER BASIN

WEDNESDAY, APRIL 12, 1972

U.S. SENATE,
SUBCOMMITTEE ON WATER AND POWER RESOURCES
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 3110, New Senate Office Building, Senator Clinton P. Anderson, (chairman) presiding.

Present: Senators Anderson, Moss, Hansen, and Jordan.

Also present: Dan Dreyfus professional staff member, and Charles Cook, minority counsel.

Senator ANDERSON. The committee will now come to order.

The purpose of this hearing before the Water and Power Resources Subcommittee this morning is to take testimony on S. 3287, introduced by Senator Moss and S. 3283, proposed by the Department of Interior. S. 3287 and S. 3283, are identical bills to increase the authorization for appropriation for continuing work in the Upper Colorado River Basin by the Secretary of Interior.

The act of April 11, 1956, authorized the Secretary of Interior to construct the main storage units of the Colorado River storage project, associated power transmission facilities, and a group of "participating" projects. A total appropriation of \$760 million was authorized by the act for this work. The current estimate of total appropriations required for the work is \$1,370 million. S. 3283 and S. 3287 would increase appropriations by \$610 million for completion of the work originally authorized by the Colorado River storage project of 1956. A companion bill, H.R. 13435 has been introduced in the House.

The texts of S. 3283 and S. 3287 and the executive communication of the Department of Interior will be included in the record at this point.

(The documents referred to follow:)

S. 3283, 92D CONGRESS, 2D SESSION

A bill to increase the authorization for appropriation for continuing work in the Upper Colorado River Basin by the Secretary of the Interior

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to provide for completion of construction of the Curecanti, Flaming Gorge, Glen Canyon, and Navajo units, and transmission division of the Colorado River Storage project, and for completion of construction of the following participating projects: Central Utah (initial phase—Bonneville, Jensen, Upalco, and Vernal units), Emery County, Florida, Hammond, LaBarge, Lyman, Paonia, Seedskaadee, Silt, and Smith Fork: the amount which section 12 of the Act of April 11, 1956 (70 Stat. 105), authorizes to be appropriated is hereby further increased by the sum of \$610,000,000, plus or minus such amounts, if any, as may be required, by reason of changes in construction costs as indicated by engineering cost indices applicable to the type of construction involved. This additional sum shall be available solely for continuing construction of the previously authorized units and projects named herein.

S. 3287, 92D CONGRESS, 2D SESSION

A bill to increase the authorization for appropriation for continuing work in the Upper Colorado River Basin by the Secretary of the Interior

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to provide for completion of construction of the Curecanti, Flaming Gorge, Glen Canyon, and Navajo units, and transmission division of the Colorado River storage project, and for completion of construction of the following participating projects: Central Utah (initial phase—Bonneville, Jensen, Upalco, and Vernal units), Emery County, Florida, Hammond, LaBarge, Lyman, Paonia, Seedska-dee, Silt, and Smith Fork; the amount which section 12 of the Act of April 11, 1956 (79 Stat. 105) authorizes to be appropriated is hereby further increased by the sum of \$610,000,000, plus or minus such amounts, if any, as may be required, by reason of changes in construction costs as indicated by engineering cost indexes applicable to the type of construction involved. This additional sum shall be available solely for continuing construction of the previously authorized units and projects named herein.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., February 25, 1972.

HON. SPIRO T. AGNEW,
President of the Senate,
Washington, D.C.

DEAR MR. PRESIDENT: Enclosed is a draft of a proposed bill "To increase the authorization for appropriation for continuing work in the Upper Colorado River Basin by the Secretary of the Interior."

We recommend that the bill be referred to the appropriate committee for consideration, and we recommend that it be enacted.

The bill would increase the present \$760 million appropriation authorization to carry out work in the Upper Colorado River Basin by \$610 million. This is the current estimate of the amount required to complete construction of the storage units of the Colorado River Storage project and the participating projects, with related power transmission facilities, which were initially authorized by the Act of April 11, 1956 (70 Stat. 105). The bill provides for increases or decreases in the authorization as may be required by reason of changes in construction cost indices.

The Act of April 11, 1956 authorized the Secretary of the Interior to construct, operate, and maintain the following initial units of the Colorado River Storage project; Curecanti, Flaming Gorge, Glen Canyon, and Navajo; and the following participating projects: Central Utah (initial phase), Emery County, Florida, Hammond, LaBarge, Lyman, Paonia, Pine River Extension, Seedska-dee, Silt, and Smith Fork, with related power transmission facilities. It provided an initial authorization for appropriation of \$760 million to carry out the purposes of the Act. By Act of September 30, 1968 (Public Law 90-537), the Pine River Extension participating project was deauthorized.

Appropriations received through fiscal year 1972 for units and projects covered by the initial authorization amount to \$754.9 million, leaving about \$5.1 million of authorized appropriations under present law. The current estimated total authorization for appropriations required is \$1,369.4 million with a balance of \$614.5 million appropriations required to complete construction of all units and projects covered by the initial authorization.

Since the current appropriation authorization will be exceeded in fiscal year 1973, the additional authorization provided by this bill will be required early in this session of Congress to support the Administration's request for appropriations for fiscal year 1973. Excluded from the additional appropriation authorization requested herein are the Animas-LaPlata, Bostwick Park, Dallas Creek, Dolores, Fruitland Mesa, Navajo Indian, San Juan-Chama, San Miguel, Savery-Pot Hook, and West Divide participating projects, which have been authorized with separate appropriation limitations.

The Office of Management and Budget has advised that there is no objection to the presentation of this proposed legislation from the standpoint of the Administration's program.

Sincerely yours,

JAMES R. SMITH,
Acting Secretary of the Interior.

DEPARTMENT OF THE INTERIOR—UPPER COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS
[Estimate of requirement for increase in authorization for appropriation to complete construction]

Project or activity	Appropriations		
	Total estimated requirement	Received through fiscal year 1972	Balance required to complete
Colorado River storage project:			
Curecanti unit.....	\$129,356,000	\$89,093,000	\$40,263,000
Flaming Gorge unit.....	65,498,000	65,498,000	-----
Glen Canyon unit.....	245,873,000	243,798,000	2,075,000
Navajo unit.....	38,607,000	38,607,000	-----
Transmission division.....	219,553,000	125,629,000	93,924,000
Operation and maintenance.....	3,578,000	3,578,000	-----
Quality of water studies.....	499,000	499,000	-----
Participating projects:			
Central Utah (initial phase):			
Bonneville unit.....	420,346,000	64,465,000	355,881,000
Jensen unit.....	11,179,000	1,453,000	9,726,000
Upalco unit.....	21,850,000	1,111,000	20,739,000
Vernal unit.....	9,674,000	8,612,000	1,062,000
Emercy County.....	14,777,000	13,158,000	1,619,000
Florida.....	11,160,000	11,160,000	-----
Hammond.....	6,825,000	5,526,000	1,299,000
LaBarge.....	136,000	136,000	-----
Lyman.....	15,355,000	10,661,000	4,694,000
Paonia.....	6,062,000	6,062,000	-----
Pine River extensions ¹	136,000	136,000	-----
Seedskaadee.....	51,232,000	22,229,000	29,003,000
Silt.....	7,696,000	7,310,000	386,000
Smith Fork.....	4,465,000	4,465,000	-----
Subtotal.....	1,283,857,000	723,186,000	560,671,000
Recreation and Fish and Wildlife:			
National Park Service.....	49,916,000	20,288,000	29,628,000
Bureau of Sport Fisheries and Wildlife.....	26,949,000	9,979,000	16,970,000
Bureau of Indian Affairs.....	8,446,000	1,240,000	7,206,000
Subtotal.....	85,311,000	31,507,000	53,804,000
Payments to General Services Administration for office space.....	180,000	180,000	-----
Total—All activities.....	1,369,348,000	754,873,000	614,475,000
Appropriations authorized by section 12, act of Apr. 11, 1956 (Public Law 84-485).....	760,000,000	760,000,000	-----
Balance of appropriation requirement.....	-----	-----	614,475,000
Balance of appropriation authorization.....	-----	5,127,000	-----
Additional authorization required.....	609,348,000	-----	-----
Rounded to.....	610,000,000	-----	-----

¹ Deauthorized by act of Sept. 30, 1968 (Public Law 90-537).

DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION—COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS—STATUS OF ENVIRONMENTAL IMPACT STATEMENTS
(For projects or activities covered in the request for increase in appropriation authorization)

Project or activity covered by additional authorization	Status of project as of June 30, 1972 (percent complete)	Date environmental impact statement filed or scheduled	Remarks
COLORADO RIVER STORAGE PROJECT			
Curecanti unit.....	69	-----	-----
Crystal Dam and Reservoir.....	13	Final Environmental Statement filed with Council on Environmental Quality December 6, 1971.	Statement has been filed for Crystal Dam and Reservoir. Blue Mesa and Morrow Point Dams and Reservoirs are now essentially complete and statements on these features are not anticipated at this time.
Glen Canyon Unit.....	99	None required.....	Regional Director, Salt Lake City, Utah, has determined the balance of work to complete is essentially associated with development in the existing community of Page, Ariz., and has no significant affect on the environment.

DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION—COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS—STATUS OF ENVIRONMENTAL IMPACT STATEMENTS—Continued

(For projects or activities covered in the request for increase in appropriation authorization)

Project or activity covered by additional authorization	Status of project as of June 30, 1972 (percent complete)	Date environmental impact statement filed or scheduled	Remarks
COLORADO RIVER STORAGE PROJECT—Continued			
Transmission Division:			
Going work:			
Archer-Weld 230-kv transmission line.	37	Final Environmental Statement filed with Council on Environmental Quality November 2, 1972.	
Glen Canyon-Flagstaff-Pinnacle Peak transmission lines and substations.	99	None required	Regional Director, Salt Lake City, Utah, has determined that inasmuch as balance of work to complete is for equipment installation in existing facilities there is no significant impact on the environment.
New work:			
Curecanti-Shiprock 230-kv transmission line No. 2 and substations. Additions and modifications to functionally completed facilities.	7	Draft Environmental Statement scheduled for December 1972.	
	41	None required	Regional Directors, Salt Lake City Utah, and Denver, Colo., have determined that inasmuch as balance of work to complete is for installations in existing facilities, there is no significant impact on the environment.
Future work	1	As required	Environmental Statements will be prepared for each new feature as identified and as the need dictates.
PARTICIPATING PROJECTS			
Central Utah project: Bonneville Unit	15	Draft Environmental statement scheduled for March 1972.	Statement will cover total program.
Jensen Unit	13	Draft Environmental statement scheduled for February 1972.	Statement will cover total program.
Upalco Unit	5	Draft Environmental statement scheduled for January 1974.	Statement will cover total program.
Vernal Unit	89	None required	Commissioner has determined that inasmuch as the balance of work is for drains in presently developed areas, there is no significant impact on the environment.
Emery County Project	89	None required	Commissioner has determined that inasmuch as the remaining work is for drains in presently developed areas there is no impact on the environment.
Hammond Project	81	None required	Regional Director, Salt Lake City, Utah, with recommendations of the Commissioner's Office, has determined that if completed as now planned, there is no significant impact on the environment. The remaining work consists of rehabilitation of existing facilities.
Lyman Project: China Meadows Dam and Reservoir.	69	16	Draft Environmental statement filed with Council on Environmental Quality Jan. 6, 1972. Final scheduled for April 1972.
			Statement has been filed for China Meadows Dam and Reservoir. Meeks Cabin Dam and Reservoir are essentially complete and statement is not anticipated at this time.
Seedskaadee Project	43	Draft Environmental statement scheduled for January 1973.	Definite Plan Report revision scheduled for completion in F.Y. 1972. This report will include a statement on the environmental impact.
Silt Project	95	None required	Balance of program is for drainage in presently developed area, with no significant impact on the environment.

DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION—COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS—STATUS OF ENVIRONMENTAL IMPACT STATEMENTS—Continued

(For projects or activities covered in the request for increase in appropriation authorization)

Project or activity covered by additional authorization	Status of project as of June 30, 1972 (percent complete)	Date environmental impact statement filed or scheduled	Remarks
RECREATION AND FISH AND WILDLIFE			
National Park Service.....	41	See remarks.....	Where applicable, Recreation and Fish and Wildlife environmental impact included in statements for the individual projects or activities. Otherwise actions will be assessed by the responsible agency to determine need for environmental study.
Bureau of Sport Fisheries and Wildlife.....	37	See remarks.....	
Bureau of Indian Affairs.....	15	See remarks.....	

Senator ANDERSON. Mr. Stamm, I am sorry that the others aren't here but you go right ahead.

STATEMENT OF G. G. STAMM, ACTING COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

Mr. STAMM. Thank you, Mr. Chairman, it is a pleasure to appear before this committee in support of S. 3283 and S. 3287, identical bills to increase the appropriation authorization for continuing the comprehensive development of the water resources of the Upper Colorado River Basin. The Senate bills are companions to H.R. 13435. These bills would provide for an increase of \$610 million in the authorization for works to be undertaken pursuant to the plan adopted by the act of April 11, 1956—Public Law 485 of the 84th Congress. They will allow completion of construction of the four storage units of the Colorado River storage project and the 11 participating projects, with related power transmission facilities, which were initially authorized by the basic act. Participating projects authorized by acts of the Congress after that date provide separate funding authority.

House Report No. 92-944 on H.R. 13435 would limit the authorization to \$352,195,000 for fiscal years 1973 through 1977 only. While we strongly support the \$610 million increase in authorization provided in the administration bills, we have no major objection to the more restrictive language contained in the House report.

Section 1 of the 1956 act authorized the Secretary to construct, operate, and maintain the Curecanti, Flaming Gorge, Glen Canyon, and Navajo units of the Colorado River storage project and 11 participating projects which include the initial phase of the Central Utah project, Emery County, Fla., Hammond, LaBarge, Lyman, Paonia, Pine River extension, Seedskaadee, Silt, and Smith Fork projects, with related transmission facilities. By act of September 30, 1968—Public Law 90-357—the Pine River extension participating project was deauthorized.

Section 8 of the act provided for the construction of public recreational facilities and for facilities to mitigate losses of, and improve conditions for, the propagation of fish and wildlife in conjunction

with the development of the authorized storage units and participating projects.

Excluded from this appropriation authorization request are the Animas-LaPlata, Bostwick Park, Dallas Creek, Dolores, Fruitland Mesa, Navajo Indian irrigation, San Juan-Chama, San Miguel, Savery-Pot Hook, and West Divide participating projects, all of which have been authorized with separate appropriation authorization.

The original act provided an initial authorization of \$760 million. Appropriations received through fiscal year 1972 for units and projects covered by the initial authorization amount to \$754.9 million. Thus, only \$5.1 million of the original authorization remains unused.

The current estimated total cost of the authorized work is \$1.370 billion. An additional authorization of \$610 million, plus or minus such amounts as may be required by reason of changes in construction cost indices, is needed to complete construction of these units and participating projects.

Through the end of fiscal year 1972, construction will have been completed on the Flaming Gorge and Navajo storage units, and on the Florida, Paonia, and Smith Fork participating projects. The Glen Canyon unit is essentially completed, as are the Morrow Point and Blue Mesa facilities of the Curecanti unit, and the dam and power facilities of the Seedskadee project. The principal works are complete and in operation on the Vernal unit of the Central Utah project and on the Emery County and Silt projects.

The completed units and participating projects, plus the operational facilities on units substantially completed, provide facilities to deliver irrigation water to 145,300 acres; provide 303,600 acre-feet of water for municipal and industrial use; and include 1,248,000 kilowatts of installed generating capacity. Those units and participating projects still under construction, when completed, will supply water for an additional 247,900 acres; provide an additional 97,000 acre-feet of water for municipal and industrial use; and an additional 161,500 kilowatts of installed generating capacity.

The fiscal year 1973 program now before the Congress provides for an appropriation of \$43,307,000 subject to the new proposed appropriation authorization.

We recommend favorable committee action on the proposed legislation.

Senator Moss. Mr. Chairman, I appreciate the testimony of Mr. Stamm and I will have some questions.

I did have a very brief statement that I would like to make before I proceed with questions.

Senator ANDERSON. Go ahead.

Senator Moss. Mr. Chairman, an indication of my interest in this is very important, I think. One of the two bills that is before us today is the bill that I introduced to increase the appropriation.

At the time the Upper Colorado River Basin authorization bill was passed in 1956, the amount of \$760 million was authorized for the construction, operation and maintenance of the four major storage units, a power transmission and marketing system, 11 participating water use projects, and fish and wildlife recreation programs. At that time, it was recognized that the amount authorized would not be sufficient to fund fully all of the projects authorized, even had the current inflation not occurred; that the time would come, as projects were

planned and entered the construction stage, that the authorization ceiling would have to be increased.

And so, that time has now come. In fact we almost reached a total of \$754,873,000 appropriated, and the fiscal 1973 budget request for Upper Colorado River projects cannot be acted upon until the spending of more funds is authorized.

Both my bill and the chairman's bill calls for the other \$610 million. I hope the subcommittee will report a bill which authorizes this full amount.

Over half of the \$610 million will go to the Central Utah project, to be split up as follows: Bonneville unit, \$355.8 million; Jensen unit, \$9.7 million; Upalco unit, \$20.7 million; and Vernal unit, \$1.0 million.

Also included is some \$2 million for clean up work on the Glen Canyon project.

The House Interior Committee has reported a bill which would authorize only an additional \$352,195,000, to be used for continuing work on the Upper Colorado River project through 1977 plus or minus any amounts which may be required by reason of changes in construction costs, "as indicated by the engineering cost indices applicable to the type of construction that is involved." The House Committee also provides that no part of the funds which this bill will authorize can be used to initiate construction on any participating project not under construction on June 30, 1972.

I hope that the Senate will not put any such restrictions on the authorization, but will support the full amount requested originally by the Bureau of Reclamation. I would point out that the new authorization is not enough to complete even the Bonneville unit of the Central Utah project, not to mention the other units of this project or the many other projects which must be funded.

I would certainly oppose any restrictions on the use of funds on any project not already in the construction stage. This would mean no "new starts" on any project throughout the entire Upper Colorado River Basin within the next 5 years.

That would be a calamity. We must not only continue to build, but we must start all feasible water development projects in the upper basin as rapidly as we can if we are to meet our water needs. We are running out of water in many areas of the basin right now. We must conserve and put to beneficial use every drop we have as soon as we can. We cannot afford to have any brakes put on water development in Utah, or elsewhere in the upper basin.

I trust that this subcommittee will be foresighted enough to recommend authorization of the full \$610 million the Bureau of Reclamation has requested, and will do so promptly.

As my statement indicates I do have major objections to the House version and I am a little taken aback that the witness would testify that there is no major objection to that.

I am concerned about this restriction as well as the fact that there is a restriction against authorizing money to be spent on any project not underway by the 30th of June of this year. It seems to me this is an intolerable restriction.

I wonder if you would tell us, Mr. Stamm, what project now in the planning stage might be affected by this limitation?

MR. STAMM. Senator Moss, it is our understanding of the House report that the limitation would not have any effect on the projects

that you are talking about. You mentioned a number of projects that have not been started now and will not have been started this year. As indicated in my testimony the Animas-LaPlata, the Bostwick Park, Dallas Creek, Dolores, Fruitland Mesa, Navajo Indian irrigation, San Juan-Chama, San Miguel, Savery-Pot Hook and West Divide all have been authorized separately and each one has its own authorization ceiling. Therefore those are not affected in any way by the original ceiling in the 1956 act nor by this proposed amendment to increase that ceiling by \$610 million.

The limitation that the House puts on its bill, as we interpret it, permits us to spend money for exactly the same projects that the \$610 million would be spent for except that it could only be spent between the fiscal years 1973 and 1977, and any work that remains to be completed as of 1977 would have to be covered by an additional increase in the authorization ceiling. In other words, we would have to come back to the Congress prior to 1977 and ask for the remainder of the ceiling needed to complete the originally authorized storage units and participating projects.

Senator Moss. What sense does that make? The Department in its estimate sent up saying that we need authorization for \$610 million more and the simple response is to give authorization. Of course, we always have to go through appropriation processes every year and if a Congress at any time should decide they didn't want to appropriate the money, we could withhold it. But certainly there is a need for authorization at least of \$610 million.

Mr. STAMM. We agree with you completely and we strongly support the \$610 million. And if the Congress should choose not to authorize the \$610 million, then we would be faced with coming up again for authorization ceiling as well as appropriation requests every year. So you are right.

Senator Moss. What effect would this limitation of participating projects not already under construction have on the Ute Indian project, for example, in Utah?

Mr. STAMM. None.

Senator Moss. That only had a provisional authorization in the bill.

Mr. STAMM. You are talking about the Uinta?

Senator Moss. No, the Ute Indian. This is the big Ute project of Central Utah. We borrowed some of the Indian's entitlement downriver and if we can't get started on their project for them to get their water, then we have broken our word with the Indians and we are in very deep trouble.

Mr. STAMM. That is correct and planning of this project does have Congressional authorization, however, it does require additional authorization by the Congress before we could start construction of the project.

Senator Moss. If we keep in this limitation about participating projects not already under construction, haven't we put the freeze on the Ute Indian project?

Mr. STAMM. I don't think so because when the Ute Indian project comes before the Congress for the additional authorization that is required, that is when the Congress authorizes construction of that unit, it will provide separate appropriation authorization for that unit. This is what the Congress has done for the recently authorized units.

There are separate authorized appropriation ceilings for each of those 10 projects that I listed a few minutes ago.

In other words, all of the recently authorized projects have separate ceilings which are outside the ceiling we are talking about today.

Senator Moss. What you are telling me is that the Ute Indians project will have to come in for a separate authorization. What about the planning phases of this?

Mr. STAMM. The planning phases are not interfered with. We have authority to proceed with the planning and the planning is underway.

Senator Moss. If we authorize the \$610 million, could any of that be used on the Ute Indian project, could an appropriation be made for it?

Mr. STAMM. Not for construction of the Ute project, no, sir. Even with the \$610 million we would still have to have legislative authority to start construction of the Ute Indian unit.

Senator Moss. A more general question. If we authorize only the \$352 million that the House has authorized, would this carry the projects through 1977? Are any of them going to be slowed down?

Mr. STAMM. No, sir. If you authorized only the lesser amount that is in the House bill, we could carry forward on our schedule as proposed up through 1977, but the work that we currently project to be completed after 1977 would not be covered and we would have to have additional authorization ceilings.

Senator Moss. How, then would that affect the planning phase, if you were uncertain about anything beyond 1977?

Mr. STAMM. No, this wouldn't interfere with planning. We have authority to proceed with the planning on schedule.

Senator Moss. But would you spend that money in planning not knowing whether you were going to get an authorization?

Mr. STAMM. Yes, sir. We always plan prior to the time that projects are authorized. Feasibility reports are prepared and submitted to the Congress for action and they are the basis for the Congress to authorize the projects. Expenditure of some planning money always precedes authorization for construction.

Senator Moss. Well, I recognize that. If the Congress already is cutting in half, roughly, what the Bureau of Reclamation asked for in authorization, doesn't that raise in our minds some likelihood that the authorization might not be granted after 1977?

Mr. STAMM. Well, that is always a possibility certainly, but we interpret this as saying the Congress questions our ability to look into the future more than through 1977, even though we are projecting a program for completion that goes well beyond 1977. The House committee is suggesting that we be funded through 1977 and by then we will have a firmer estimate of what it takes to complete the works and should then go back to the Congress for the additional authority needed.

This will not slow down or interfere or alter our course of construction between now and 1977. We certainly will anticipate that the Congress will give us additional construction authorization in a timely manner.

Senator Moss. How much leeway for inflation is plowed into this \$352 million authorization looking ahead to 1977?

Mr. STAMM. We haven't plowed anything into that figure for inflation but the bill itself, in case of both the \$610 million and the lesser

amount in the House report, are subject to "plus or minus such amounts as may be required by reason of changes in construction cost indices." That is intended to take into account the inflationary aspects of construction, so we could automatically increase the \$610 million to take care of inflationary aspects of construction.

Senator Moss. How much has inflation affected the construction cost of the Upper Colorado River project since 1956?

Mr. STAMM. Very substantially, and I think I can give you some figures. The increase due to price trends, which would be inflation, is about \$245 million.

Senator Moss. Couldn't we draw the lesson from that that the sooner we can get our construction under contract the more likely we are to save money and get away from inflation?

Mr. STAMM. That certainly is true. If we can construct at an optimum rate it is always advantageous.

Senator Moss. Because the trend has constantly been up and it's been extremely fast in the last decade and that is another thing that bothers me about cutting back the authorization. We ought to have enough authorization that the Bureau can come in with its maximum efficient rate of construction rather than being required to string it out to a given time.

Mr. STAMM. Certainly, Senator Moss, if the Congress will authorize the \$610 million additional ceiling that the administration is requesting, it will give us maximum flexibility in moving ahead to minimize the effects of inflation and to complete the project in the most orderly manner. There is no question about that.

Senator Moss. Thank you. I appreciate that answer. That is what I wanted.

I want to turn to one or two other questions. The town of Page, Ariz., was built to support construction of the Glen Canyon Dam and the town is now a thriving community. In fact, I was there 2 weeks ago and it is all filled up again and it is really a booming place now due to, I guess, the construction at Navajo, but a lot of other things too. What particular responsibilities does the Bureau have for the maintenance of the town of Page?

Mr. STAMM. Until the town can be incorporated and we can dispose of it, we have a particular responsibility for maintenance of the utilities and other town facilities. We have felt for quite awhile that now is the time to support legislation which would permit us to transfer Page from a government community to an incorporated town in the State of Arizona. We have had numerous meetings with the local townspeople, one as recently as last month, and we are in the process of drafting legislation which will treat with all of the items that need to be considered in this transitional process.

Senator Moss. There are plans being made then for the Bureau to withdraw from the maintenance of utilities and other town services and turn them over to the town?

Mr. STAMM. Yes, sir, but this will require legislation. This will be very similar to the approach that was taken in the case of Boulder City. With that experience behind us, we have been negotiating with the people of Page to arrive at a basis for transfer that will be fair and equitable, will allow a reasonable opportunity for them to take over and build up their tax structure, and will permit them to become eligible for assistance from the State, county, and other normal revenue sources.

Senator Moss. Where does the Bureau draw its funds now that it uses in the maintenance of the town of Page?

Mr. STAMM. From the Upper Colorado River Basin fund.

Senator Moss. Therefore, do they affect in any way the payout on the dam, the repayment of the building of the dam that has to come out of funds generated?

Mr. STAMM. Yes, as they come from project revenue, they have an effect on repayment.

Senator Moss. So the longer the Bureau maintains Page, the longer we are slowed down on payback?

Mr. STAMM. Yes, sir.

Senator Moss. Can you give us a brief status report on the current repayment outlook on the storage project?

Mr. STAMM. Yes. The payout is on schedule. We make a study periodically to look at the revenues, the costs, and the rates of payout, and each of those studies to date indicate that we are on schedule. For example, the power investment, which is interest bearing, will be paid out in the year 2008, which is fully consistent with the law.

The municipal and industrial obligation will also have been paid out well in advance of that date. The irrigation investment in the storage project will have been paid out in the year 2011. The irrigation investments from the participating projects is not required to be paid out until later dates, depending upon when those participating projects are completed and go into a repayment status. But there is in anticipation adequate revenues to fully meet the reimburseable obligations of law and also to begin building a reserve fund or basin fund, beginning about the year 2028, which builds up to about \$462 million by year 2059, which would become available for assistance to future participating projects.

Senator Moss. So you can report to me that the repayments are on schedule at this time, that you are meeting the targets?

Mr. STAMM. Yes, sir.

Senator Moss. What is the present status of the legal actions against the Department regarding filling of Lake Powell because of the Rainbow Bridge controversy?

Mr. STAMM. I think probably you are acquainted with the earlier actions. On February 28, 1972, the plaintiffs filed a motion for a preliminary judgment against operating Lake Powell above the elevation of the Rainbow Bridge monument boundary which is 3,606 feet. A hearing on the motion was held on March 15 at which time the judge gave the parties until March 25 to present further arguments. The decision on the motion is still pending.

I could give you a brief rundown on the effects of an adverse decision, that is if we were to be bound to hold the lake level at a lesser elevation.

Senator Moss. I would like that. What is the level of the lake now?

Mr. STAMM. 3,613 feet.

Senator Moss. So it already has crossed the line into the boundary?

Mr. STAMM. Yes, sir, it has. It is not under the arch. As you know it never gets at a sufficient depth under the arch to get on to the abutments of the arch.

Senator Moss. Isn't it true that the maximum level of the lake would still be 32 feet below the abutments of the arch?

Mr. STAMM. Yes, sir. It would still be in the eroded inner channel under the arch.

Senator Moss. There is a small stream flowing there now, is that right?

Mr. STAMM. I am not sure that it is a live stream year round, but certainly water flows there at times, yes, sir.

Senator Moss. I can agree with you it is alive now because I flew over it and looked down. There is a fairly good stream running through there now and this is normal, isn't it?

Mr. STAMM. Yes, sir. What has eroded the channel that is there now is the runoff during the years.

Senator Moss. What is the maximum level at which the lake was expected to rise?

Mr. STAMM. It would be to the 3,700-foot elevation.

Senator Moss. It was my recollection it was 3,700, yes. So that is the level we are talking about when we say the maximum would put water in the little cup below the bridge although it would never approach the abutment of the bridge?

Mr. STAMM. That is correct.

Senator Moss. Has there ever been any engineering estimate that the water backing in there could have any structural effect on the bridge, weaken it in any way?

Mr. STAMM. Yes, we had studies made when the question came up several years ago, and qualified geologists who made the studies concluded that the operation of the reservoir would not have any detrimental effect on the arch. As a matter of fact, they concluded it probably would prolong its life.

Senator Moss. That is my opinion, too, from seeing it but the little stream does at least some bits of cutting and if it were still water it wouldn't be cutting any more, would it?

Mr. STAMM. That is right.

Senator Moss. And the fact that the water is up close to the bridge has greatly enhanced the visitation, is that right?

Mr. STAMM. Yes. Many more visitors do go there now. In fact, more people will go there now in 1 year than went in the 25 years prior to the time the lake was formed.

Senator Moss. I think that is a very modest statement. I think more than in 50 years, from my observation, and I, of course, have been very concerned about this.

What effect will this, if the motion should be granted and if the level were held down to 3,606, what effect would that have on the pay-out, on the structure of the dam?

Mr. STAMM. Well, under those conditions power generation, of course, would be seriously reduced and the funds available to the upper basin States for repayment of participating projects through year 2059 would be reduced by about \$375 million, and by stretching out project payment the increase in the interest cost would amount to about \$107 million.

Senator Moss. Interest alone?

Mr. STAMM. Increased interest alone would be \$107 million.

Senator Moss. If the motion should be granted and the Court should rule the level had to be held down there, what would be our alternative then, would it require legislation of some sort to reach the problem?

Mr. STAMM. That would be my opinion, Senator, that we would be bound by the action of the Court until and unless the Congress passed legislation which would change the situation.

Senator MOSS. You probably are aware that I have had a bill pending for a number of years that would remove the clause from the Upper Colorado storage project which says "no structure or reservoir shall be within any national park or monument." Would that be effective to do it, if that bill could go through the Congress?

Mr. STAMM. I think so.

Senator MOSS. My position is that in the compromise to get the storage project and aiming at Echo Park, the legislation put in that clause, Congress included that clause to try to protect Echo Park and it was a kind of ricochet mistake when we got involved with Rainbow Bridge. Do you have any impression like that?

Mr. STAMM. I wasn't around at the time that took place. I mean I wasn't in the Washington office. I am sure you are aware that the appropriations committee every year for the last 10 or 12 years have provided specifically that none of the funds appropriated shall be used to carry out the protection that was contemplated by the clause you just made reference to.

Senator HANSEN. Will the Senator yield? I am not certain that I understood what your bill would provide for.

Senator MOSS. The bill that I have would simply take out that restrictive clause which said "No waters from any reservoir would be within any national park or monument."

Senator HANSEN. Any national park or monument?

Senator MOSS. Yes. That is the language that has us on the hook. You see, there was a big fight when the whole project was authorized dealing with Echo Park which is up in Dinosaur National Monument and the language excepted was so broad in aiming at Dinosaur, this is my interpretation, that it also hit Rainbow Bridge, and we were suddenly caught with the Rainbow Bridge situation on our hands, and as Mr. Stamm testified, for many years we have been putting into the appropriation bill a restriction that they can't use any money to build a dam across there to keep the water out because that was the proposal, they shoot down those cliffs and put a big dam and pumps behind them and all that garbage to protect Rainbow Bridge free from a few still waters creeping up.

Senator HANSEN. Does this provision apply only to any project under the Colorado River Basin?

Senator MOSS. Yes, the Colorado River storage project. That is where the clause was inserted and this was the first big fight made against reclamation projects by the so-called preservationists and they did succeed in stopping Echo Park. We had to give up and transfer the dam site up there to another place not quite as good. But I have been trying to find out and I am glad to have these figures as to the tremendous amount of cost if the reservoir has to be held down and the repayments schedule and the amounts of interest we have to pay. I also wanted to underline the fact that there isn't any threat to the structural stability of the bridge by reason of the water going to the maximum level of 3,700 feet. And, as a matter of fact, it enhances the availability for visitors to come and see the bridge. This is the thing that has always struck me so strongly. When we create a national monument or national park, we say it belongs to all of the people and

they ought to be able to enjoy the beauty of that particular national asset we have and, if anything, we ought to enhance availability so long as we protect it from any destructive force, and it seems we have a perfect example in Rainbow Bridge.

I have been there many times. I walked in when you had to walk 6 miles and not many people would make it. It was a hard thing to even get to see the bridge. Now you can go on the surface of the lake to within a matter of a quarter or half a mile of it, and just walk an easy trail up there and see the bridge and it is the greatest stone arch in the whole world, and it is a marvel. Everybody ought to have a chance to see it.

Mr. STAMM. We agree with all you are saying, Senator.

Senator MOSS. I am glad to have your expressions of support because I am concerned about the suit that is pending and I wanted to get your opinion as to what immediate action may have to be taken by the Congress in the event there is an adverse ruling. I would not like to anticipate an adverse ruling, but I would like to be ready in case there were one to come out.

Well, I appreciate your responses and I am very happy to have you say the Department indeed still supports its original recommendation, even though you said you couldn't live with the half a loaf that the House gave. I am hoping the Senate will put the whole loaf back together.

Thank you, Mr. Chairman.

Senator HANSEN. Mr. Chairman, first of all, Mr. Stamm, let me say that I think your testimony has been very helpful this morning, and I appreciate doubly the incisive questions asked by my good friend, the Senator from Utah. I found the dialogue between you and him certainly answers many questions that I am sure are very much in the minds of a great many of us.

Wyoming does have a very real interest in this piece of legislation. I think three of the projects that have been enumerated are within the State of Wyoming, LaBarge, Lyman and Seedskaelee. I understand that Savery-Pot Hook, insofar as this appropriation authorization is concerned, has been excluded but I understood you to say that whatever additional authorization might subsequently be required would be handled in the normal authorizing process?

Mr. STAMM. Yes, Savery-Pot Hook, Senator Hansen, has been authorized with a separate ceiling. It has its own ceiling.

Senator HANSEN. I see. I have several questions. First of all, I understand that it is planned that nearly 9 million acre-feet of water will be allowed to flow through the turbines at Glen Canyon Dam. What is the reason for this release of excess water?

Mr. STAMM. When you say excess water, that implies that we are not putting water to beneficial use as we pass it. But by flowing through the turbines it will generate electricity and it is consistent with our operating criteria.

Senator HANSEN. Is it true also that this discharge would satisfy compact requirements?

Mr. STAMM. Yes, sir.

Senator HANSEN. Are you saying that this 9 million acre-feet, in addition to what other discharge there may be, will not exceed the commitments that the Upper Basin States have to the Lower Basin States is satisfying compact requirements?

Mr. STAMM. Well, certainly, I would say that we have no intention of violating the operating criteria or jeopardizing the Upper Basin States' rights to water.

Senator HANSEN. How will that affect the filling of the reservoir?

Mr. STAMM. I don't know that I have the specifics with me on the matter of the reservoir filling.

Senator HANSEN. If you would like, Mr. Stamm, to submit your response for the record, with the chairman's consent. I realize that is a difficult question and you might like to have some time to get the material necessary.

Mr. STAMM. We will be happy to do that and give you an analysis of the quantities in storage, how this conforms to the operating criteria, including protection of the upper basin's rights, yes, sir.

The 9 million acre-foot release is the minimum amount necessary in water year 1972 to satisfy the compact delivery requirement of 75 million acre-feet for the 10-year period ending September 30, 1972. As we now forecast a runoff of about 75 percent of normal, with this release we do not anticipate any significant change in the level of Lake Powell from the end of last year. Under the operating criteria we plan to release about 8¼ million acre-feet in water year 1973. With normal runoff and this release we should be able to store about 3 million acre-feet in upper basin reservoirs in water year 1973.

Senator HANSEN. When I was Governor of Wyoming I was exactly as interested as I am now in the operation of the several reservoirs on the Colorado and interested as well in the operational plans that have been devised from time to time, and I think of one question that arose. That was the salinity content of the river further downstream and what effect it might have on some of the uses of water and sharing of the responsibility as to lower basin States, felt should be borne by the upper basin States in at least making enough water available to dilute, as I recall, the salt content in the river down there. So these are, of course, very important questions to us.

Mr. STAMM. In that regard we are launching or have launched a major study of the salinity problem of the Colorado River Basin and in that study we will take into account all aspects of the problem, the point sources and diffuse sources of the salinity and attempt to discover ways and means to improve the water quality.

Senator HANSEN. I have several questions, if I may, let me read all of them. If you would care to make any oral response now, I would be pleased to have it. If you would rather just hear all of them and then submit responses for the record, that would be perfectly satisfactory to me and the chairman has indicated that he agrees to this sort of procedure.

Are the 1962 filling criteria still in effect with respect to Glen Canyon Dam?

What consideration has been given to terminating those criteria and declaring the reservoir full?

Is it realistic to believe that Lake Powell will achieve 28 million acre-foot of storage simultaneously with the achievement of 17 million acre-feet of storage at Lake Mead?

If you would care to answer any of those questions now?

Mr. STAMM. I think it would be desirable if we would give full consideration to these and supply the answers for the record.

(The information requested follows:)

Yes, the 1962 filling criteria are still in effect. In the Secretary's letter of June 8, 1970, he stated, ". . . and in my judgment the contents of Lake Powell and Lake Mead do not warrant termination of the Filling Criteria at this time." The Secretary's position has not changed on this matter of termination of the Filling Criteria.

Under current as well as projected water and power marketing conditions all Colorado River Storage Project generation is required to meet firm energy obligations of the United States. Therefore, we anticipate purchase of all Hoover Deficiency energy. Under these circumstances we see no possible adverse effects to the Upper Basin States that would be eliminated by terminating the filling criteria. Therefore, to answer the question, some States have asked us to further consider the termination of the filling criteria since Secretary Hickey's letters to each of the Governors of the Colorado River Basin States on June 8, 1970, referred to previously, but at this time we think it is inappropriate.

One objective of the operating criteria published June 10, 1970, required by the Colorado River Basin Act of September 30, 1968 (Public Law 90-537), is to maintain, as nearly as practicable active storage in Lake Mead equal to that in Lake Powell, so when Lake Powell is full, Lake Mead would be also full. At the same time, however, Lake Mead flood control regulations require vacant storage space in that reservoir.

One of the major compromises of Public Law 90-537 was the establishment of the principle that the two reservoirs would generally fill and empty more or less together. Therefore, if Lake Powell is to be filled to its maximum normal level of 3,700 feet with 27 million acre-feet of storage (28 million acre-feet according to the reservoir capacity survey at the time the filling criteria were written), Lake Mead would also have to have 27 million acre-feet of storage which would exceed the amount allowed by the flood-control regulations during the time of the year when such storage would be possible. We are studying ways of eliminating this inconsistency.

Senator ANDERSON. That will be fine.

Senator HANSEN. There are those of us who believe that this procedure would not be very good river management since it would require a spill and would not be in consistence with principal 8, which requires that both Hoover and Glen Canyon be managed to maximum power generation. I just mention that parenthetically.

My next question is, does this mean that we are stuck with the filling criteria until May 21, 1987?

If the Government loses the Rainbow Bridge case and Lake Powell is kept at 3,600-foot elevation, and my understanding is that 3,700-foot elevation is full, which would be the full 28 million acre-feet, should not the filling criteria be immediately terminated, since the reservoir has already achieved more than the 3,600-foot elevation fill mark?

Those are the series of questions. If you would like—

Mr. STAMM. Senator Hansen, we will provide you a specific answer to each one of those.

Generally speaking, the filling criteria are still in effect. We have given a great deal of consideration from time to time to whether these should be terminated, and when, and under what circumstances, and certainly if the Rainbow Bridge case is decided adversely and remains so through appeal process or acts of Congress, then it is a wholly new ballgame and we have to take a fresh look.

Senator HANSEN. What is the present situation with respect to the incorporation of Page, Ariz.?

Mr. STAMM. We hope to have administration recommended legislation up to this session of the Congress, which would accomplish the incorporation of Page.

Senator HANSEN. Would you provide for the record the status of the upper basin fund, or maybe you have it now?

Mr. STAMM. Yes.

Senator HANSEN. I understand you have already responded to this.

Mr. STAMM. Yes, we discussed the fact that we are on schedule. I thought perhaps you might want specific dollars.

As of June 30, 1971, Treasury advances to the UCRBF totaled \$769,500,000 and after net disbursements, the fund balance at that date was \$9,400,000. Income and repayments from water users exceeded disbursements for operation and maintenance, emergency expenditures, and water quality expenditures by \$78,600,000 most of which had been paid to the Treasury as interest or repayment of investment.

Senator HANSEN. If you would care to submit for the record such additional information as seems relevant, that would be helpful and I think I have no further questions, Mr. Chairman.

I can say that we too are conscious of the need for this legislation, that we have some projects that are involved and while it is popular these days to be concerned with some excesses from our agricultural economy, I think only the most naive would believe that this situation isn't going to change very rapidly. There is as we all know being pursued in America today much of the prime farmland that we have, highways and airports and cities and urban sprawl all reaching out and taking over private agricultural lands, and I suspect of all the major nations in the world, our's is the only one that seems yet to be playing with surpluses, a situation that may tend to encourage some nonchalance in our approach to these problems, but wiser, truer heads, certainly are requesting that if we are to preserve and, indeed, to try to protect the present status of living we have, it is very essential and very important that we take steps now to see that we have the kind of agricultural production capacity that will assure the sort of living that I think we all would hope could characterize the America of tomorrow. And knowing that it takes a long time between authorization and appropriation, before you actually get production and having in mind also the terribly expanded recreational opportunities that these kind of developments have made for all of our people, I am in support of reclamation programs, despite what some of us said, it seems perfectly obvious, as was demonstrated by the questions raised by Senator Moss, that ever so many more people can see these unique out-of-the-way places, that would never be seen excepting those few hardy souls who could walk into them.

I would like to conclude, Mr. Chairman, by saying I think this testimony has been very helpful. I am solidly in support of the appropriation and I hope the Congress will authorize it forthwith.

Senator ANDERSON. If the reservoir is held down to 3,606 feet, would that cause any problem on interest?

Mr. STAMM. Yes, sir. If it is held at any level below the maximum of 3,700 feet, it will have an effect on the interest cost, yes sir.

Senator ANDERSON. But what would happen?

Mr. STAMM. If it were held to 3,606, it would increase the interest cost in excess of \$100 million.

Senator ANDERSON. \$100 million?

Mr. STAMM. Yes, sir.

Senator ANDERSON. For Hoover Dam, what would the interest cost be?

Mr. STAMM. This increase in interest cost results from delaying the payout of the storage units of the Colorado Basin project. It wouldn't involve the Hoover Dam payout at all, Senator Anderson.

Senator ANDERSON. I understand that, but suppose we had a free area and the dam was built like the present dam, do you have any idea whether that would be feasible?

Mr. STAMM. I personally think so, yes, sir.

Senator ANDERSON. I do believe that the Hoover Dam could not possibly be built at 6-percent interest. It is below that now, isn't it?

Mr. STAMM. We would have to make a study to be sure, but my off-the-cuff reaction is that Hoover Dam would be fully justified even if it bore the interest rate you referred to.

Senator ANDERSON. I hope you take an awfully good look at that because I don't think Hoover Dam would qualify if it had 6-percent interest.

Mr. STAMM. If you go high enough you might run into some difficulty. I thought you said 3-percent interest. I think at 3 percent there is no question.

Senator ANDERSON. I didn't say 3 percent. What about 3.25?

Mr. STAMM. No question in my mind at 3.25.

Senator ANDERSON. I think there would be some questions at 3.25. We must be considering what the interest rates will be.

Any other questions?

Senator MOSS. No.

Senator ANDERSON. Thank you.

(Whereupon, at 11 a.m., the hearing was concluded.)



