

8894
Jan 8/13
W58

Storage

WHITESTONE COULEE PROJECT, WASHINGTON

Y4
. In 8/13
W58



HEARING
BEFORE THE
SUBCOMMITTEE ON
IRRIGATION AND RECLAMATION
OF THE
COMMITTEE ON
INTERIOR AND INSULAR AFFAIRS
UNITED STATES SENATE

EIGHTY-EIGHTH CONGRESS
SECOND SESSION

ON

S. 2447

A BILL TO AUTHORIZE THE SECRETARY OF THE INTERIOR
TO CONSTRUCT, OPERATE, AND MAINTAIN THE WHITE-
STONE COULEE UNIT OF THE OKANOGAN-SIMILKAMEEN
DIVISION, CHIEF JOSEPH DAM PROJECT, WASHINGTON,
AND FOR OTHER PURPOSES

MARCH 3, 1964

Printed for the use of the
Committee on Interior and Insular Affairs



8814
8/13
MAD

4Y
8/13
W 28

WASHINGTON COLLEGE PROJECT, WASHINGTON

HEARING
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

HENRY M. JACKSON, Washington, *Chairman*

- | | |
|----------------------------------|------------------------------|
| CLINTON P. ANDERSON, New Mexico | THOMAS H. KUCHEL, California |
| ALAN BIBLE, Nevada | GORDON ALLOTT, Colorado |
| FRANK CHURCH, Idaho | LEN B. JORDAN, Idaho |
| ERNEST GRUENING, Alaska | MILWARD L. SIMPSON, Wyoming |
| FRANK E. MOSS, Utah | E. L. MECHEM, New Mexico |
| QUENTIN N. BURDICK, North Dakota | PETER H. DOMINICK, Colorado |
| CARL HAYDEN, Arizona | |
| GEORGE McGOVERN, South Dakota | |
| GAYLORD NELSON, Wisconsin | |
| HERBERT S. WALTERS, Tennessee | |

JERRY T. VERKLER, *Staff Director*
THOMAS S. FOLEY, *Special Counsel*

SUBCOMMITTEE ON IRRIGATION AND RECLAMATION

FRANK E. MOSS, Utah, *Chairman*

- | | |
|----------------------------------|------------------------------|
| CLINTON P. ANDERSON, New Mexico | THOMAS H. KUCHEL, California |
| HENRY M. JACKSON, Washington | GORDON ALLOTT, Colorado |
| FRANK CHURCH, Idaho | LEN B. JORDAN, Idaho |
| QUENTIN N. BURDICK, North Dakota | |
| CARL HAYDEN, Arizona | |



CONTENTS

	Page
S. 2447-----	1
Departmental report:-----	
Interior-----	2
STATEMENTS	
Gray, Wesley, secretary-manager, Whitestone Reclamation District-----	12
Hallauer, Hon. Wilbur G., State senator, State of Washington-----	8
Holmes, Warren J., director, Whitestone Reclamation District-----	10
Holum, Hon. Kenneth, Assistant Secretary of the Interior-----	16
Magnuson, Hon. Warren G., for himself and Hon. Henry M. Jackson-----	5
Palmer, William I., Acting Assistant Commissioner for Reclamation; accompanied by H. T. Nelson, regional director at Boise, Idaho, and J. Karl Lee, Assistant Chief, Division of Project Development.-----	30
Richardson, John, supervisor, Division of Reclamation, Washington State Department of Conservation-----	7
Rosellini, Hon. Albert D., Governor, State of Washington-----	7
COMMUNICATIONS	
Hawkins, Mr. and Mrs. Russell, Tonasket, Wash.: Letter to Hon. Henry M. Jackson, chairman, Interior and Insular Affairs Committee, dated February 10, 1964-----	16
Hutchinson, Leonard R., Tonasket, Wash.: Letter to Hon. Henry M. Jackson, chairman, Interior and Insular Affairs Committee, dated Febru- ary 10, 1964-----	15
McMillan, Lawrence D., Tonasket, Wash.: Letter to Hon. Henry M. Jackson, chairman, Interior and Insular Affairs Committee, dated February 9, 1964-----	16
Williams, George E., Tonasket, Wash.: Letter to Hon. Henry M. Jackson, chairman, Interior and Insular Affairs Committee, dated February 12, 1964-----	15
MISCELLANEOUS INFORMATION	
Area redevelopment benefits, Whitestone Coulee unit-----	23
Determination of area redevelopment benefits from water resource projects-----	24

CONTENTS

Page

Introduction 1

CHAPTER I 10

CHAPTER II 20

CHAPTER III 30

WHITESTONE COULEE PROJECT, WASHINGTON

TUESDAY, MARCH 3, 1964

U.S. SENATE,
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:40 a.m., in room 3110, New Senate Office Building, Senator Frank E. Moss presiding.
Present: Senators Moss, Jackson, Church, Burdick, Allott, and Jordan.

Also present: Jerry Verkler, staff director; Thomas S. Foley, special counsel; Stewart French, chief counsel; Roy M. Whitacre, professional staff member; Richard W. C. Falknor, professional staff member; Richard Andrews, minority counsel; and Robert Bendt, professional staff member.

Senator Moss. The Subcommittee on Irrigation and Reclamation has scheduled several measures for hearings this morning. I trust that we will be able to finish all of the pending business, but if not, we will try to complete action tomorrow.

The bill before us first is S. 2447, introduced by the chairman of the full committee, Senator Jackson, and cosponsored by Senator Magnuson. The bill would authorize the Secretary of the Interior to construct, operate, and maintain the Whitestone Coulee unit of the Okanogan-Similkameen division of the Chief Joseph Dam project.

We will print the bill and reports first and then hear testimony from the sponsors of the bill and other witnesses.

(The bill and reports follow:)

[S. 2447, 88th Cong., 2d sess.]

A BILL To authorize the Secretary of the Interior to construct, operate, and maintain the Whitestone Coulee unit of the Okanogan-Similkameen division, Chief Joseph Dam project, Washington, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purposes of furnishing a new and a supplemental water supply for the irrigation of approximately two thousand five hundred and fifty acres of land in Okanogan County, Washington, for the purpose of undertaking the rehabilitation and betterment of existing works serving a major portion of these lands, and for conservation and development of fish and wildlife resources and improvement of public recreation facilities, the Secretary of the Interior is authorized to construct, operate, and maintain the Whitestone Coulee unit of the Okanogan-Similkameen division of the Chief Joseph Dam project, in accordance with the provisions of the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto). The principal works of the unit shall consist of: facilities to permit enlargement and utilization of Spectacle Lake storage; related canal and conduits, diversion dam, pumping plants, and distribution systems; and necessary works incidental to the rehabilitation and expansion of the existing irrigation system.

SEC. 2. The provisions of section 2 of the Act of July 27, 1954 (68 Stat. 568, 569), shall be applicable to the Whitestone Coulee unit of the Okanogan-Similkameen division of the Chief Joseph Dam project. The term "construction costs" used therein shall include any irrigation operation, maintenance, and replacement costs during the development period which the Secretary finds it proper to fund because they are beyond the ability of the water users to pay during that period.

SEC. 3. The Secretary is authorized, as a part of the Whitestone Coulee unit, to construct, operate, and maintain basic public recreation facilities including access roads, to acquire or otherwise to include within the unit area such adjacent lands or interests therein as are necessary for present or future public recreation use, and to provide for public use and enjoyment of the same and of the water areas of the unit in a manner coordinated with the other project purposes. The Secretary is authorized to enter into agreements with State or local public agencies or other public entities for the operation, maintenance, or additional development of unit lands or facilities, or to dispose of unit lands or facilities to State or local agencies or other public entities by lease, transfer, exchange, or conveyance, upon such terms and conditions as will best promote their development and operation in the public interest for recreation purposes. The costs of the undertakings described in this section, including costs of investigation, planning, Federal operation and maintenance, and an appropriate share of the joint costs of the Whitestone Coulee unit, shall be nonreimbursable.

SEC. 4. There are hereby authorized to be appropriated for construction of the new works involved in the Whitestone Coulee unit, of the Okanogan Similkameen division of the Chief Joseph Dam project \$5,325,000 (April 1960 prices), plus or minus such amounts, if any, as may be required by reason of changes in the cost of construction works of the types involved therein as shown by engineering cost indices and, in addition thereto, such sums as may be required to operate and maintain said division.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., March 2, 1964.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: This responds to your request for the views of this Department on S. 2447, a bill to authorize the Secretary of the Interior to construct, operate, and maintain the Whitestone Coulee unit of the Okanogan-Similkameen division, Chief Joseph Dam project, Washington, and for other purposes.

We recommend enactment of the bill with certain amendments suggested hereinafter.

The Whitestone Coulee unit is a potential irrigation development to serve 2,660 acres in north-central Washington about 10 miles from the international boundary with Canada. Existing facilities of the Whitestone Reclamation District now serve 1,830 irrigable acres of the project area. The plan of development of the unit provides for rehabilitating and enlarging existing works and constructing new facilities to serve an additional 705 acres of lands that are now dry farmed. Continuation of water service within their entitlement to a further 125 acres of class 6 district lands which have a water right is also proposed. The 125 acres of class 6 lands would not be included within the district for repayment purposes; however, they would pay appropriate operation, maintenance, and replacement charges.

The lands in the unit area are devoted almost exclusively to apple production, with cover crops. By climate, topography, and soils the area is particularly well suited to this crop pattern under sprinkler irrigation. The district lands in question have a long and successful production history, and the new lands included in the project plan are equally well suited for apple production.

The Whitestone Reclamation District holds adjudicated rights to the flows of Toats Coulee Creek. The plan of development contemplates replacing an existing diversion dam on that creek with a new structure, rehabilitating the main supply canal which runs from the point of diversion on Toats Coulee Creek to Spectacle Lake some 4 miles away. Active storage capacity of Spectacle Lake would be expanded from 3,800 to 6,250 acre-feet by construction of a dike and outlet control works. Three small pumping plants would be built and the

gravity distribution system of canals, siphons, and buried pipe laterals would be rehabilitated and expanded as necessary. These improvements would provide an adequate water supply for irrigation of all lands of the unit.

Development of the unit as proposed would produce no flood control benefits of significance, nor is there opportunity for the production of hydroelectric power. Investigations disclosed no need in the area for industrial water supplies or pollution control or other public health measures. Existing facilities for domestic water service are adequate and will remain in use. Thus, the Whitestone Coulee unit is proposed principally as an irrigation development.

There are, however, opportunities to provide excellent fishery and general recreation benefits. These would be realized under the plan of development proposed. The State and private interests have already developed Spectacle Lake as a recreation facility. By virtue of annual stocking of fingerlings by the State department of game, it is an excellent rainbow trout fishery. With increased capacity and project improvements the fishery would be enhanced to produce average annual benefits estimated by the Fish and Wildlife Service at \$4,050. Lands would be acquired to replace existing public-access areas inundated by enlargement of the reservoir, and basic recreation facilities would also be constructed.

The project is engineeringly and economically feasible. Based on a 100-year period of analysis, the benefit-cost ratio is 5.6 to 1, demonstrating the productivity of irrigated orchard land in the area.

Okanogan County, Wash., in which the unit is located, has been designated as a rural redevelopment area under criteria in the Area Redevelopment Act of 1961 (75 Stat. 47). Accordingly, the benefits which would accrue to area redevelopment from project construction and operation have been calculated. We propose that this function be recognized as a project purpose in accordance with principles for water resource development evaluation adopted by the President on May 15, 1962 (S. Doc. 97, 87th Cong.), for application within the executive branch. To accomplish this, the bill should be amended by adding the words "and for area redevelopment," after the word "facilities," on line 2, page 2. Also, section 4 should be renumbered section "5" and a new section 4 reading as follows should be added:

"Sec. 4. The Secretary is authorized, if the Whitestone Coulee unit is located in whole or in part in a redevelopment area as defined in the Area Redevelopment Act (75 Stat. 47) to recognize redevelopment as a function of the unit, to evaluate the benefits of the unit in relieving persistent unemployment or underemployment, and to allocate costs to the redevelopment function as appropriate, which costs shall be nonreimbursable."

The total project cost is estimated to be \$5,312,000. Of this, \$813,000 would be allocated to area redevelopment, \$4,336,000 to irrigation, and \$163,000 to fish and wildlife enhancement and recreation. On the basis of budget studies, we have estimated the repayment capability of the irrigators to be \$1,100,200 over a 50-year period. This is 25 percent of the irrigation allocation. The balance of the irrigation allocation would be returned from revenues of the Federal Columbia River power system.

Orchards are slow to develop. Consequently, those project farmers whose lands are not now in orchards will require a 10-year development period, during which they will experience very low revenues. For that reason it is necessary to fund a part of the operation and maintenance costs of the unit during that period. Projections are that approximately \$74,000 in operating costs would be funded as an irrigation cost item.

The first sentence of section 2 makes applicable to the Whitestone Coulee unit the provisions of section 2 of the act of July 27, 1954, authorizing the Foster Creek division of the Chief Joseph Dam project (68 Stat. 568). The provisions of section 2 of the act of July 27, 1954, are not entirely appropriate to the Whitestone Coulee unit—those provisions are—

- (1) establishment of a 50-year repayment period (this is necessary);
- (2) adoption of a variable repayment formula (this is not necessary, general reclamation law now provides this authority, act of August 8, 1958 (72 Stat. 542));
- (3) provision for financial assistance from Chief Joseph Dam (financial assistance is required, but because of recent changes in accounting practices for the Federal Columbia River power system it is no longer appropriate to tie financial assistance to an individual project or dam); and
- (4) availability of Chief Joseph project energy for project pumping at rates not exceeding the costs of generation (similarly, the change in ac-

counting practices makes it no longer appropriate to tie the unit pumping power reservation and charges to an individual project).

In order to provide for a 50-year repayment period for the irrigators, fund operating costs as necessary during the development period, reserve power for unit pumping and provide financial assistance to the unit, we recommend that section 2 be deleted and the following substituted therefor:

"Sec. 2. Irrigation repayment contracts shall provide for repayment of the obligation assumed thereunder with respect to any contract unit over a period of not more than fifty years exclusive of any development period authorized by law. Operation, maintenance and replacement costs during the development period which the Secretary finds it proper to fund because they are beyond the ability of the irrigators to repay during that period shall be returned by the irrigators during the repayment period. Construction costs allocated to irrigation beyond the ability of the irrigators to repay, shall be returned to the Reclamation Fund from revenues derived by the Secretary from the disposition of power marketed through the Bonneville Power Administration. Power and energy required for irrigation water pumping for the unit shall be made available by the Secretary from the Federal Columbia River power system at charges determined by the Secretary."

Finally, to accommodate the bill to the administration's proposed legislation concerning cost-sharing at water resources projects, a new subsection 3(b) should be added as follows:

"(b) The costs of means and measures to prevent loss of and damage to fish and wildlife resources shall be considered as project costs and allocated as may be appropriate among the project functions."

Authorization to proceed with the Whitestone Coulee unit would be most timely. The unit has a very high benefit-to-cost ratio and will produce substantial benefits in a community that is undergoing serious economic hardship.

A statement of personnel and other requirements that enactment of this legislation would entail is enclosed in accordance with the provisions of Public Law 801, 84th Congress.

The Bureau of the Budget has advised that there is no objection to the presentation of this proposed report from the standpoint of the administration's program, subject to possible supplementary advice from the Bureau of the Budget when views of the Department of Commerce on the proposed amendments to the bill dealing with area redevelopment are received.

Sincerely yours,

KENNETH HOLUM,
Assistant Secretary of the Interior.

Whitestone Coulee unit, Okanogan-Similkameen Division, Chief Joseph Dam project

Estimated additional man-years of civilian employment and expenditures for the first 5 years of proposed new or expanded programs, as required by Public Law 801, 84th Congress.

	1st year	2d year	3d year	4th year	5th year
Estimated additional man-years of civilian employment:					
Administrative services, clerical.....	None	1	1	1	None
Substantive (program) engineering aids and technicians.....	None	3	3	3	None
Total estimated additional man-years of civilian employment.....	None	3.25	4	2.75	None
Estimated expenditures:					
Personal services.....	(1)	\$154,200	\$194,465	\$144,097	\$10,942
All other.....	(1)	1,080,780	2,278,535	1,078,903	3,458
Total estimated expenditures.....	\$197,000	1,235,000	2,473,000	1,223,000	14,400

¹ General investigation expenses.

Senator Moss. The first witness on S. 2447 is the Honorable Warren G. Magnuson, whom I understand has a statement for himself and for Senator Jackson, the chairman of the full Committee on Interior and Insular Affairs.

Senator Magnuson.

**STATEMENT OF HON. WARREN G. MAGNUSON, FOR HIMSELF AND
HON. HENRY M. JACKSON, U.S. SENATORS FROM THE STATE OF
WASHINGTON**

Senator MAGNUSON. Thank you, Senator. I do have a short statement on behalf of myself and Senator Jackson—two short statements, as a matter of fact—one on S. 2447, the Whitestone Coulee unit project, and the other on the Banks Lake and Pothole Reservoir.

Senator Moss. You may proceed.

Senator MAGNUSON. I will testify to the one on S. 2447 at this point. Of course, Mr. Chairman, I appreciate the opportunity to appear before the subcommittee this morning in support of S. 2447, a bill to authorize the Secretary of the Interior to construct, operate, and maintain the Whitestone Coulee unit of the Chief Joseph Dam project. I make this statement on my own behalf and on behalf of my distinguished colleague, Senator Jackson.

I am glad to see this committee is adopting the same procedure that I follow in the Commerce Committee. The committee chairman is a little bit embarrassed when he testifies on his own bill, and so I am filling in for Senator Jackson. Both of us feel keenly about this project.

The Whitestone Coulee unit, if authorized by the Congress, would rehabilitate an existing privately developed irrigation unit within the Whitestone Irrigation District. This district is located in north-central Washington in Okanogan County near the town of Tonasket. The Whitestone district presently provides water for 1,830 acres of prime orchard land in the Upper Okanogan River Basin. This is part of the land that you folks on the committee as well as Senator Jackson and myself know the beautiful apples come from.

Some of the original irrigation facilities are almost 40 years old and I have many pictures here for the committee which will show that they are very badly deteriorated. Without laboring this fact, I will, at this time, hand to the subcommittee a number of recent Bureau of Reclamation photographs which testify eloquently to the imminent need for rehabilitation of these facilities.

On January 2, 1964, Assistant Secretary of the Interior Kenneth Holum submitted the Department's final feasibility report to the Congress. The report presents a plan of development, multipurpose in scope, to provide recreation and fish and wildlife benefits in addition to irrigation. Secretary Holum noted that the Whitestone Reclamation District serves an area which has been designated as a rural redevelopment area under the Area Redevelopment Act of 1961.

The proposed plan for development calls for the construction of a new diversion dam on Toats-Coulee Creek, the construction of a canal and siphon and three pumping plants to bring water to Spectacle Lake. In addition to these developments, the construction of a dike

on Spectacle Lake will increase the storage capacity of the lake from 3,800 to 6,250 acre-feet. The project will also rehabilitate and improve an existing gravity flow diversion system so that the total irrigated acreage will be increased from 1,830 to 2,660.

This is very consistent, too, because when we authorized and funded the Chief Joseph Dam we were very careful to include in the authorization the possibility of irrigation in these projects in the Chief Joseph area. Chief Joseph, of course, is primarily a power dam but there was the possibility of further development in the area.

The feasibility report from the Secretary estimated the total cost of this development to be \$5,312,000. Of this amount \$4,338,000 would be allocated to irrigation benefits. The water users would repay \$1,100,200 and the balance would be repaid from the power revenues of the Chief Joseph Dam project. Because of the persistently depressed character of Okanogan County, the Department has recommended a nonreimbursable allocation of \$806,000 to area redevelopment. Recreation and fish and wildlife improvement has been estimated at \$168,000, and this amount is, of course, also nonreimbursable.

I wish to emphasize that the feasibility report shows a benefit-to-cost ratio of 5.8 to 1 on a basis of 100 years, and a benefit-to-cost ratio of 4.9 to 1 on a basis of 50 years, which is the normal rule of thumb we use in these projects. I do not need to point out to the subcommittee that this is an extremely favorable benefit-to-cost ratio.

In accordance with existing law, the Department's feasibility report was submitted to the Governor of the State of Washington and received his approval. Mr. Richardson is here today to present a statement on behalf of Governor Rosellini.

To my knowledge, this bill has unanimous local support. The subcommittee will hear today the testimony of one of our most distinguished State senators, the Honorable Wilbur Hallauer. In addition, Mr. Holmes and Mr. Gray, the president and secretary of the Whitestone Reclamation District, are here to give the subcommittee the benefit of their firsthand knowledge of the need for this legislation.

They, of course, have lived with this and understand and can answer any technical questions you may have.

That concludes my statement on behalf of Senator Jackson and myself.

Senator Moss. Thank you, Senator Magnuson. These photographs that have been passed around are very dramatic demonstrations of the poor facilities that are now in use on the project. These will all be placed in the committee file for reference of the committee in considering this project.

Senator MAGNUSON. These were all taken by the Bureau of Reclamation and constitute an objective photographic review, I would say.

Senator Moss. Yes; I can see they are identified as Bureau of Reclamation photographs. We appreciate your statement. Are there any questions, Senator Church?

Senator CHURCH. I was just going to say, Senator Magnuson, that the cost-to-benefit ratio on this project is one of the highest that has come before this committee—

Senator MAGNUSON. Yes.

Senator CHURCH. In my memory, and considering the modest size of the project, and the high benefit-to-cost ratio, it certainly commends itself to our attention.

Senator MAGNUSON. I think that we haven't emphasized too much, and of course you have to project this, but the recreation and fish and wildlife features of this project are tremendous assets for the future.

This is beautiful country too. It attracts all kinds of people. We haven't emphasized that too much because we wanted to get the practical benefit-to-cost ratio.

Senator MOSS. Are there any surplus crops involved here that would be grown on this project, or is it all orchards?

Senator MAGNUSON. Mainly orchards. The surplus crops would be very little, probably none. Some of it would be the feed for their own—

Senator MOSS. Local consumption?

Senator MAGNUSON. North of the area is cattle country of some repute. There would be no competition that I can see with this at all. I don't think you can make a case for competition.

Senator MOSS. Senator Jordan?

Senator JORDAN. No questions, Mr. Chairman. I just want to thank our colleague for a clear and concise statement of the project. I must say it looks very attractive at first inspection.

Senator MOSS. Mr. John Richardson has a statement for the Governor of the State of Washington. I would call on him now.

I suggest you place the statement in the record and very quickly summarize it for us if you are able to.

STATEMENT OF JOHN RICHARDSON, SUPERVISOR, DIVISION OF RECLAMATION, WASHINGTON STATE DEPARTMENT OF CONSERVATION

Mr. RICHARDSON. My name is John Richardson, supervisor of reclamation, and I serve as secretary of the Columbia Basin Commission.

The statement I am presenting is in behalf of Gov. Albert D. Rosellini, whose administration fully endorses the Whitestone Coulee project.

As Senator Magnuson mentioned, the State has been interested in this project for more than 40 years. Initially the State raised bonds to construct it and has continued to finance it over the years.

I believe Senator Church made a fine point. All of these projects connected with the Chief Joseph Dam project have excellent cost-to-benefit ratios and they are the highest that have come to the Congress in recent decades.

Thank you very much.

(The statement of Hon. Albert D. Rosellini, Governor of the State of Washington, follows:)

STATEMENT OF HON. ALBERT D. ROSELLINI, GOVERNOR OF WASHINGTON

Mr. Chairman, this project initially was constructed with State funds some 40 years ago with the purchase of bonds of the Whitestone Reclamation District by the State reclamation fund. The State has worked closely with the directors of the district and the Bureau of Reclamation for the past several years in advancing the project which is before you to rehabilitate the district system.

This area of Washington State, the Okanogan Valley, is one of the most productive apple-growing areas in the world. The irrigated economy of this project is based almost entirely on the apply industry.

The stability of this economy and its expansion depends largely on the availability of a dependable water supply for existing orchards and the continuing of these lands in production under today's improved irrigation systems and methods.

As with the other divisions of the Chief Joseph Dam project, the benefit-to-cost ratio for this proposal, 6.66 to 1 on a 100-year basis and 5.8 to 1 on a 50-year basis, ranks among the highest this committee has considered in recent years.

We would appreciate your favorable consideration of S. 2447.

Thank you very much.

Senator Moss. Thank you, Mr. Richardson, for presenting the Governor's statement in approval of S. 2447. We will now call on the Honorable Wilbur G. Hallauer, who is a Washington State senator from Okanogan and Douglas Counties. We are very glad to have you, Senator Hallauer.

STATEMENT OF HON. WILBUR G. HALLAUER, A STATE SENATOR FROM THE STATE OF WASHINGTON

Mr. HALLAUER. I am State Senator Wilbur Hallauer of Okanogan and Douglas Counties, the first legislative district of the State of Washington.

The project that is before you today is in my district, in fact about 15 miles away from my home. I am personally very familiar with the problems of the landowners of the Whitestone Coulee project. Since 1945 I have been one of those landowners myself, and I have engaged personally in orcharding in the Whitestone Coulee unit, and particularly in the development of a new apple orchard in that area. In addition to about 20 years of actual farming in the project, I have been the legislator for these people in the district and they have brought many of their State problems to me, so I have had an opportunity to have had contact with their rather difficult problems in that way also.

Prior to World War II the Whitestone Irrigation District was on an entirely different basis than it is today. At that time it was primarily land with some dairying, and after World War II rather rapidly there came about a conversion of the district from that type of farming operation to an orchard economy, and the district now is in large degree in apple orchards with some small percentage of pear orcharding. It raises some of the finest apples in the State of Washington and I might add, of course, in the whole United States.

Senator Moss. We won't tell Senator Byrd.

Mr. HALLAUER. Thank you. But the irrigation system of the Whitestone district is an ancient and dilapidated affair. It takes an annual miracle to hold the thing together. It is composed of long lines of wooden flumes on the edges of very difficult terrain, and these structures are very old and on occasion some parts of them have fallen down, and of course for orcharding practices one must have certain water supplies or orchards will be lost.

This is why the rehabilitation scheme that has been outlined here by the Bureau of Reclamation is so necessary for our survival. And of course we are contending against the possibility of short water supplies because of inadequate storage in the district.

The Bureau of Reclamation's suggested plan would solve both of these difficulties by rehabilitating the long flume lines making those

more certain and by adding to the storage of the district at Spectacle Lake. Therefore I wish to add my testimony on behalf of the proposal of the Bureau of Reclamation. I have only a single copy of my testimony and I will give that to the secretary.

(The statement of State Senator Hallauer follows:)

PREPARED STATEMENT OF WILBUR G. HALLAUER, A STATE SENATOR FROM THE STATE OF WASHINGTON

Mr. Chairman, I am personally familiar with the problems of the landowners of the Whitestone Coulee project. Since 1945 I have been one of them and have engaged personally in the operation and particularly in the development of fruit orchards within the Whitestone Irrigation District.

In addition to my nearly 20 years of personal contact with the problems of the Whitestone Coulee unit I have also served the people of the area for 16 years in the Washington State Legislature. The Whitestone district has had State level problems and I have naturally been involved in these. This contact plus the neighborly contact of being a fellow landowner and fruitgrower has given me an extremely close working acquaintance with the Whitestone district. Add to this the fact that one of the tracts of orchard that I developed was "at the end of the line" and you can readily understand by awareness of the critical water problems in the Whitestone area.

Prior to World War II the major part of the Whitestone Irrigation District was devoted to supplying winter forage for beef cattle that pastured in the surrounding mountain areas. Minor acreages were devoted to orchards and dairying. The orchards did establish the fact that this district produced some of the finest apples and winter pears in the State of Washington and the United States. Beginning right after the war the economy of the Whitestone district switched to fruit—and the major acreage is now in orchard and must have certain water supplies if loss of trees and the heavy investment so represented is to be avoided.

The irrigation system of the Whitestone district is rickety and dilapidated; the supply of stored water is far too small for proper water insurance. We are all too vulnerable to the possibility of a short water supply year and to the expectation of an annual miracle whereby our ancient flumes will last out another water season.

The rehabilitation plan suggested under S. 2447 is necessary to the survival of the Whitestone Irrigation District and the landowner-orchardists in that district.

Senator Moss. Thank you, Senator Hallauer. Is the product of the district primarily apples now?

Mr. HALLAUER. I would say it is probably 70 percent in terms of acreage in apples. This is my personal guess. The rest of it is hay land primarily devoted to servicing the needs of the stockmen of the area. The surrounding country is pastured to hay in the summertime.

Senator Moss. You have summer range and they grow mostly hay to winter over the animals?

Mr. HALLAUER. Yes.

Senator Moss. So that they can be grazed again in the summer?

Mr. HALLAUER. These are the two items of our farming economy.

Senator Moss. Is there any appreciable amount of wheat, for instance?

Mr. HALLAUER. No wheat whatsoever.

Senator Moss. No wheat whatsoever.

Mr. HALLAUER. I think there is one dairy farm. I understand the man has left to go elsewhere.

Senator Moss. I see. Any questions by the panel?

Senator Jackson?

Senator JACKSON. Senator Hallauer has been long an advocate of this project and he has been very effective in his leadership in pushing the program and I want to commend him for his fine statement.

Mr. HALLAUER. Thank you, Senator Jackson.

Senator MOSS. These photographs are worth 10,000 words of course in illustrating some of the conditions that you are contending with there.

Senator JORDAN?

Senator JORDAN. No questions.

Senator CHURCH. Senator, may I just ask this one question?

Mr. HALLAUER. Yes, Senator Church.

Senator CHURCH. Will this result in enlarging the area brought under water from the old project area?

Mr. HALLAUER. I believe there are about 500 additional acres to be serviced.

Senator CHURCH. About 500 additional acres?

Mr. HALLAUER. Yes.

Senator CHURCH. And how large was the original area served by the project that will be rehabilitated under this bill?

Mr. HALLAUER. The present amount of acreage being served is just under 2,000 acres, as I recall.

Senator JACKSON. It is 1,830. It goes to 2,660 acres.

Senator CHURCH. Senator Jackson calls my attention to the fact that it would increase the acreage to 2,660.

Senator MOSS. Thank you very much, Senator Hallauer.

Would Mr. Holmes, who is president of the Whitestone Reclamation District, and Mr. Gray, who is the secretary—I think you gentleman could come up together and sit here at the table with us if you would. We will have Mr. Holmes proceed first and then Mr. Gray, and then we might question you, either one or both as the committee may wish.

You may proceed, sir.

STATEMENT OF WARREN J. HOLMES, DIRECTOR, WHITESTONE RECLAMATION DISTRICT

Mr. HOLMES. My name is Warren Holmes. I am an applegrower and also run a few head of beef cattle. I am president of the board of directors of the Whitestone Reclamation District.

I do appreciate this opportunity to testify in support of S. 2447, the measure authorizing construction of the Whitestone Coulee unit, Okanogan-Similkameen division, Chief Joseph Dam project.

I have lived in this district since 1920 and I think I am well acquainted with its problems.

The principal crop in our district is apples, and there are none finer grown in the State of Washington. Most of our orchards are quite young and so the principal varieties grown are Red Delicious and Golden Delicious. I began working with apples in 1921 and have been associated with them ever since. I did State and Federal inspection in the apples for several seasons, and in so doing I learned

something about what makes quality apples. Our apples are grown at a little higher elevation than many of the Washington apples and that seems to be one of the main factors in producing quality fruit.

Some livestock is raised in the district, with the district water being used for pasture and hay. The project does not produce any crops which are purchased by the Commodity Credit Corporation under Federal price support programs.

Survival and expansion of our economy depends almost entirely on providing a full water supply for the existing lands and the bringing in of some new acreage.

Most of the land under the Whitestone project has the right climate, soil, and drainage to produce some of the finest apples in the Northwest. The apples from the Wenatchee-Okanogan district are shipped to every State in the Union and to many foreign countries.

The amount of local business supported by orchards is indicated by the fact that the average returns from 1,000 acres of good apple-producing lands amounts to \$1 million. Another \$2,225,000 is invested in orchard property and operating equipment to run this same 1,000 acres.

It takes about another one-half million dollars for the railroads and trucking service to deliver these apples to the markets.

These factors are shown by the benefit-to-cost ratio of the project: 5.8 to 1 on the basis of 100 years and 4.9 to 1 on the basis of 50 years.

The project has unanimous local support. It has to have, as the job is too big for the district to handle by itself. It has been fully endorsed by the department of conservation and development and the Columbia Basin Commission. It is also supported by the Okanogan-Similkameen Flood Control and Reclamation League, the Okanogan County Public Utility District, Okanogan County Commissioners, and other civic groups of the area.

Again, Mr. Chairman, I do appreciate this opportunity to appear before this committee. If you have any questions on the project, I would be very glad to try to answer them for you.

Thank you very much.

Senator Moss. Thank you, Mr. Holmes. If you would remain there we may have a question or two later. I was particularly glad to notice specifically in your testimony that there are no crops that are purchased by the Commodity Credit Corporation under the Federal price support programs.

Now that question is often raised by our colleagues when we go to the Senate. If we can be positive, can tell them there are none at all, it helps us along when we have a matter like this.

I would like to call next on Mr. Gray, and then if we have questions of either of you gentlemen we will ask them here at the table.

Senator JACKSON. Mr. Chairman, I wonder if Mr. Gray's statement could go into the record at this point. It is a little longer. Then he could make some supplemental comments to that made by Mr. Holmes.

Senator Moss. He may proceed with his statement at this time.

STATEMENT OF WESLEY GRAY, SECRETARY-MANAGER,
WHITESTONE RECLAMATION DISTRICT

Mr. GRAY. Mr. Chairman, my name is Wesley Gray. I am secretary-manager and a landowner of the Whitestone Reclamation District at Loomis, Wash.

I wish to thank you for this opportunity to testify in support of Senate bill 2447, the measure authorizing construction of the proposed rehabilitation program of the Whitestone Coulee unit of the Okanogan-Similkameen division of the Chief Joseph Dam project. I have been manager of the district for 13 years and have lived in the district since 1927, and have personally worked on every part of the system.

The proposed rehabilitation program of the Whitestone Reclamation District as set forth by the Bureau of Reclamation is urgently needed if water service is to be continued for the lands presently irrigated within the district. These lands comprise 1,300 acres of choice fruit land which is planted to Red and Golden Delicious apples just entering the age of high production. The remainder of the lands, consisting of some 675 acres, is devoted to raising hay and pasture for livestock, mainly beef cattle, which are pastured during the summer months on the surrounding hills.

The rehabilitation plans call for the inclusion of 705 acres of new lands within the district to be irrigated which are not presently served because of inadequate supply of water, due mainly to lack of storage facilities in Spectacle Lake.

The Whitestone Reclamation District was organized in 1920 and construction was completed in 1924. Financing and construction were supervised by the State of Washington Department of Conservation and Development. The original plans were to irrigate 10,000 acres and called for the use of both Sinlahekin and Toats Coulee Creeks. Two earth dams were constructed but neither held any appreciable amount of water, therefore these phases of the project were never completed and the size of the project was reduced to 2,000 acres.

Toats Coulee Creek is the direct source of water available in the district, a portion of the floodwaters of which are caught and stored in Spectacle Lake. This storage, which supplies the major portion of the presently irrigated land, is limited to approximately 3,800 acre-feet, which is about 50 percent of the amount that the proposed plan of the Bureau of Reclamation calls for. The plan would store twice the amount now available and allow the district to make full use of its storage rights which it has never been able to do because of lack of proper financing. This additional storage is an absolute necessity if the district is to have a dependable water supply. When the leaves start dropping on apple trees, the loss of one irrigation in hot weather in July can cause a 25-percent loss on size of fruit.

The floodwaters of Toats Coulee Creek would be ample for the lands presently irrigated and the new lands to be irrigated if the district had the facilities to take advantage of it during the heavy runoff period and also through the winter months. The proposed plan of the Bureau of Reclamation is so designed to do this.

The condition of the 6½ miles of wooden flume and siphons which are used to supply water for Spectacle Lake Reservoir and also 700

acres of lands dependent directly on Toats Coulee diversion are in extremely poor condition and crops dependent on it are in constant jeopardy.

The maintenance and operation of this main-line system is very costly because of the nature of the terrain on which it lies. This flume is accessible only at points which are in some cases as much as 2 miles apart and then only by Jeep pickup. This calls for most of the labor to be done by hand and supplies are moved by dollies pushed by hand for thousands of feet. These things, combined with an ever-increasing cost of materials such as nails, steel lining, lumber, and asphalt, and increases in labor costs, have made it impossible to properly maintain the flumes, thus they are in very poor condition and their life expectancy is very short. Another drawback is the fact that the maintenance must be done in late fall and early spring. At such time water is not being run, and the weather conditions in the winter months limit the amount of maintenance which can be done. In other words, approximately 60 days of badly needed water for storage is lost while repairs are being made.

The 4,000 feet of 51-inch steel siphon which crosses the Sinlahekin Valley at Loomis is a constant threat, as it has been in use for 40 years and is in bad condition from lack of proper maintenance. This pipe has a pressure of 240 pounds per square inch and is a vital link in the water supply of the district. To replace this pipe at present-day prices would be a financial impossibility for the district. The Bureau proposes a closed cement pipe from the diversion on Toats Coulee and across the Sinlahekin Valley which would eliminate these flumes and still siphon and practically eliminate maintenance costs on this portion of the project.

The district is not able to assess enough at one time to take care of these things which have passed the age of reliability. They are gradually approaching the age of deterioration to the point where we cannot use them.

The distribution system of the district is of wooden flumes and earth canals. These unlined earth ditches are responsible for a great loss of vitally needed water; very little cement lining has been done due to lack of money.

The discharge outlet from Spectacle Lake to lands for a major part of the district is by means of a tunnel approximately 1,000 feet long. This tunnel is lined with 33-inch cement tile made from materials at hand, which was very poor. The tile are in a very bad condition. The district is not financially able to replace this tunnel and will never be able to with regular assessments. Breaks in the system have caused the water to be off for as much as 10 days in hot weather and has caused losses in tree growth and fruit sizing.

A major break in the steel siphon across the valley during a period when the water was being put into Spectacle Lake would cause the entire district to be without water. A failure in the Spectacle Lake tunnel would cause a major portion of the district to lose its entire crop.

The district presently has three pumps which have been in use for 11 years. The larger one, which was installed to supply water for 300 acres, replaces a flume which was abandoned; it operates throughout the entire season. The two smaller pumps are used for supplemental water during the hot dry weather when the demand is the greatest.

The board of directors and the landowners of the district feel that repairing and replacing of the out-dated system has reached the point where the assessments will become beyond the ability of the water users to pay and they will never have a dependable water supply for the orchards and farms.

The support of the proposed rehabilitation plan by the Bureau is unanimous as the water users feel their investments in homes and farms are constantly threatened.

The financial condition of the district from the beginning has been beset with difficulties. The district has financed its repairs and operation by regular assessments and through the sale of bonds to the State of Washington, the last being in 1948. These bonds bear 2 percent interest and \$1.50 per acre of each assessment is placed in a bond retirement and interest fund which is paid to the State of Washington revolving fund through the county treasurer's office. At present the district is current in its bond payments and its bonded indebtedness is \$49,000.

The condition of the district is of grave concern to the board of directors and management as they feel that they are doing their utmost to keep the district operating but are losing ground and the future of the project is questionable.

The present costs of operation and maintenance are using the entire yearly assessments exclusive of bond and interest payments; therefore, the district is unable to properly maintain the project and also unable to make any permanent improvements.

The landowners are ready and willing to accept the plan for repayment as set forth by the Bureau of Reclamation, of a contract, which it believes to be within their ability to repay, which is \$1,100,000 over a 50-year period.

The plan set forth by the Bureau of Reclamation has been fully endorsed by Gov. Albert D. Rosellini; the department of parks and game; Earl Coe, director of department of conservation and development; Similkameen Flood Control League; Columbia Basin Commission; Okanogan County commissioners, Okanogan County Public Utility District; and other civic groups of the area. I wish to urge favorable consideration of these measures by the committee.

Thank you very much.

Senator Moss. Do either you, Mr. Gray, or Mr. Holmes know of any local opposition to the project that is now proposed?

Mr. GRAY. It is in my statement. We have none that we know of.

Senator Moss. As far as you know locally it is unanimous?

Mr. GRAY. We circulated a petition when the plan was presented. We had 98 signers out of a possible 100 landowners and users.

Senator Moss. Thank you both. I thank you both for coming this long distance to testify. I am sorry we are hurrying so but we are just trying to get through within the time that is allotted for us. Are there any questions by the Senators?

Senator Church?

Senator CHURCH. I noticed in the pictures here the works that are deteriorating so badly are wooden works.

Mr. GRAY. Yes.

Senator CHURCH. Under the bill will this be replaced by concrete construction?

Mr. GRAY. Closed-pipe construction and it will be laid out, I might add, in a different kind of terrain than that in which it is presently laid out. You might allow this expression: It is built backward. That is my version of it. I have worked on all of it and I know something about it. These flumes are lined with steel; you probably know what the price is as compared with 1923 when it was built.

Senator CHURCH. Yes.

Senator JACKSON. Mr. Chairman, I want to express my appreciation to Mr. Holmes and Mr. Gray for coming this great distance and making such helpful statements.

Senator MOSS. Senator Jordan.

Senator JORDAN. No; I wish to express my appreciation too, Mr. Chairman, to these gentlemen who have given us direct testimony. I appreciate it.

Senator MOSS. I am sure we all come from reclamation States and appreciate the problems you have and what is necessary in order to produce, and we do appreciate it, gentlemen.

Thank you.

These letters you have submitted will be included at this point.

(The letters referred to follow:)

TONASKET, WASH., *February 10, 1964.*

HON. HENRY M. JACKSON,
*Senate Office Building,
Washington, D.C.*

DEAR MR. JACKSON: I am writing you in support of the program to rehabilitate our Whitestone Reclamation District, so I may have a reliable supply of irrigation water. The present condition of the ditch facilities justifies calling this program an emergency program. A serious break in the ditch in the summer months could cause me to realize a very serious and sizable loss.

My desire and suggestion to you is that this legislation be taken care of as soon as possible.

I appreciate you taking your time to read my letter, and give consideration to the problems the property owners of the Whitestone Reclamation District have.

Yours truly,

LEONARD R. HUTCHINSON.

TONASKET, WASH., *February 12, 1964.*

Senator HENRY M. JACKSON,
*Senate Office Building,
Washington, D.C.*

DEAR SIR: As a landowner under the Whitestone Coulee project, I would like to express my thanks to you for your effort and support of the Whitestone Coulee project.

I am sure you are aware of the possibilities for the area with a firm water supply. Having lived on the "tail end" of the ditch and the water coming directly from the creek, with no reservoir between, I can vouch for the need for additional storage.

The present system is so antiquated that we dare not miss getting the bill passed this year.

I hope you will continue to give this measure your full support.

Sincerely,

GEORGE E. WILLIAMS.

TONASKET, WASH., *February 9, 1964.*

HON. HENRY M. JACKSON,
*Senate Office Building,
Washington, D.C.*

DEAR SIR: As a landholder under the Whitestone Coulee Irrigation project for the last 24 years I believe that it is very imperative that we have something done to assure an adequate supply of water.

The present irrigation system is in a state of disrepair due to age and insufficient revenue. The present revenue will take care of maintenance only.

Any failure during the summer growing season could be fatal to our apple crop for that year. The trees in all the orchards could be damaged.

This land without water will not produce anything but very poor spring and fall pasture. With adequate water it produces some of the best apples grown.

Anything you can do for us in the forthcoming hearing March 4 will be greatly appreciated.

Very truly yours,

LAWRENCE D. McMILLAN.

TONASKET, WASH., *February 10, 1964.*

Senator HENRY JACKSON,
Washington, D.C.

DEAR MR. JACKSON: We are pioneer landowners under the Whitestone Coulee unit, that is asking to be rehabilitated. The passage of this legislation is of great importance to the future of this farming district. The condition of the present facilities of the irrigation district and its great need for reconstruction is personally known.

We know you will do your best to see that this legislation is approved. Thank you.

Mr. and Mrs. RUSSELL HAWKINS.

Senator Moss. Mr. Kenneth Holum, Assistant Secretary, is here and has a statement on this project and perhaps on one of our other bills.

I see Mr. Palmer is here too. We will call on him next if he has an additional statement.

Mr. Holum, we are glad to have you, sir.

STATEMENT OF HON. KENNETH HOLUM, ASSISTANT SECRETARY OF THE INTERIOR

Mr. HOLUM. Thank you, Mr. Chairman. It is a pleasure for me to be here this morning. Certainly I appreciate the press of time under which the committee is operating this morning.

I have with me a prepared statement which contains the Department's endorsement of both the Whitestone Coulee project which you are presently considering and the lower Teton project in Idaho which you will be considering later this morning. With your permission I should like to speak to both projects simultaneously.

I think the things that I have to say to the committee might be helpful.

Senator Moss. This statement will be placed in the record in full on each of the bills that we are hearing, the Teton as well as the Whitestone, and you may proceed as you care to do, Mr. Holum.

(The statement of Assistant Secretary Holum follows:)

STATEMENT OF ASSISTANT SECRETARY OF THE INTERIOR KENNETH HOLUM

Mr. Chairman, we are here this morning to recommend the enactment of the two bills under consideration to authorize the construction of the Lower Teton Division of the Teton Basin project in Idaho and the Whitestone Coulee unit of the Chief Joseph Dam project in Washington. From economic and engineering standpoints, both are very good projects and we urge favorable action.

Representatives of the Bureau of Reclamation and other appropriate agencies of the Department of the Interior have accompanied me. They will present the plan of development, the economic and financial analyses, and other information regarding the specifics of the two proposals. I would like to confine my statement to an explanation of several policy aspects which are being presented for the first time to this committee in regard to specific reclamation proposals.

Since the feasibility reports on these projects were completed, the administration has completed its studies and presented to the Congress a plan for establishing uniform criteria to be applied to all Federal multiple-purpose water resource projects, with regard to allocation of costs to recreation and to fish and wildlife and the reimbursability of such costs. The administration's proposal is set forth in H.R. 9032. Our presentations will be consistent with the policies expressed in H.R. 9032, as introduced. The amendments suggested in the Department's legislative report are designed to bring the authorizing acts into conformity with H.R. 9032.

So that the committee may have this information, we have conducted studies to determine specifically the effect of applying the cost allocations and cost-sharing principles of H.R. 9032 to the Whitestone Coulee and Lower Teton developments. Results of this analysis are shown on the attached tabulations.

In either case, the allocations to recreation and fish and wildlife enhancement are comparatively small, and there will be no need to invoke the reimbursability provisions of H.R. 9032. Nor would allocations to recreation and fish and wildlife enhancement be reimbursable under H.R. 9032 as amended by the House committee.

In both of these projects, benefits exceed the cost by a considerable margin. However, the water users will be unable to repay the entire cost allocated to irrigation within a reasonable period of years. We propose therefore that those portions of such costs as are beyond the ability of the water users to repay be returned to the Treasury from revenues received from the sale of power from the Columbia River Federal power system. The basic feasibility reports on the Lower Teton division and the Whitestone Coulee unit contemplated that such financial assistance would be derived from the southern Idaho Federal power system and from the Chief Joseph Dam project, respectively. Since those project reports were prepared, however, two changes have taken place in the administration of the Federal power program in the Pacific Northwest.

In April 1963, the Secretary of the Interior adopted a procedure for presenting Bonneville Power Administration rate and repayment data based upon repayment of the consolidated system, including other financial obligations falling due, within a period of 50 years from the date the last major hydroelectric plan is completed.

The Bonneville Power Administration now is about \$20 million ahead of schedule in meeting its repayment obligations. In recent years, however, power revenues have not been up to the forecast amounts and our surplus has been declining. New schedules of rates and repayment studies are now being prepared to reflect the changed conditions and to assure our ability to meet all our obligations, including financial assistance to irrigation, when they fall due. These studies, you may well imagine, have been considerably complicated by lack of definite data on the proposed intertie transmission line to California and by delays in ratifying the Canadian treaty. Present indications are that some slight increases in commercial power rate schedules may be required.

At the hearings on the Nebraska midstate project tomorrow morning, we will provide this committee information on our restudy of the Missouri River Basin

project financial analysis. We were faced with a somewhat similar but more critical situation in the Missouri River Basin, and we have arrived at a solution which should be satisfactory to all concerned. Our studies on the Federal Columbia River Power System have not yet been completed, but interim results are very promising. In both cases, we are facing up to the practical situation and providing new schedules which assure our ability to meet all obligations.

In May 1963, the Secretary announced the extension of the Bonneville Power Administration marketing area to southern Idaho and the absorption of the existing Federal hydroelectric plants in that area into the Federal Columbia River Power System. This had the immediate effect of adding the output of the Bureau of Reclamation's Palisades, Anderson Ranch, and other powerplants to the system. More important to the people of that area, it resulted in immediate savings of about 2 mills per kilowatt-hour to the irrigators and preference customers of the Bureau. This is important to the development of the resources of the State of Idaho, not only because it created a favorable climate for industrial expansion, but also because it represented a significant saving in cost of production for Idaho's farmers within that area. The new Bonneville Power Administration rate and repayment schedules which I mentioned earlier will reflect this situation also.

The impact of the financial assistance requirements of the Whitestone Coulee unit and the Lower Teton Division on the Bonneville Power Administration financial studies is minor. The payout period for the Federal Columbia River Power System projects presently existing and under construction extends to fiscal year 2022, which is 50 years after the scheduled completion of the last such project.

The repayment period for irrigated lands now in full production on these developments starts as soon as water is delivered. A 10-year development period is permitted for dry land farmers to make the transition and bring their lands into irrigated production before their repayment period begins. The financial assistance required by farmers now irrigating lands on the Whitestone Coulee unit, which falls due prior to fiscal year 2022, is \$1,456,000, and for Lower Teton Division, \$5,820,000, or a total of \$7,276,100. This would be approximately equivalent to \$273,000 per year of system revenues over the 50-year repayment period, or less than one-half of 1 percent of the gross power revenues in 1963. This obligation obviously will have no effect upon the forthcoming power rate schedule adjustments. The remainder of the financial assistance requirements, from the presently dry lands to be irrigated, which will be due after fiscal year 2022, are \$1,799,700 and \$14,967,000, respectively. Net power revenues after that date will be in the order of magnitude of \$100 million annually, and the required assistance can be provided by less than 2 months' system net revenues.

The Whitestone Coulee unit is in Okanogan County, Wash., which has been designated as a "rural redevelopment area" under criteria set forth in the Area Redevelopment Act of 1961. The labor required for construction, operation, and maintenance of this project, to the extent it can be supplied from the local labor market is estimated to have a benefit equivalent of \$38,500 annually. We propose that this function be recognized as a project purpose in accordance with the principles for water resource development evaluation approved by the President on May 15, 1962 (S. Doc. 97, 87th Cong.) for application within the executive branch.

We proposed in our reports on S. 1123 and S. 2447 the adoption of certain amendments to the bills which would accomplish the purposes I have outlined briefly here this morning. We strongly recommend the enactment of those bills with the amendments we have proposed.

My colleagues from the Bureau of Reclamation and other agencies of the Department are prepared to discuss the specific features of these projects. We will be pleased to respond to any questions the members of the committee may wish to ask.

Effect of application of H.R. 9032

	Without H. R. 9032 ¹	With H. R. 9032 (current analysis) ²
Cost allocation:		
Irrigation	\$4,339,000	\$4,336,000
Fish and wildlife enhancement and recreation	159,000	163,000
Fish and wildlife mitigation	0	0
Area redevelopment	814,000	813,000
Total	5,312,000	5,312,000
Cost-sharing computation:		
Specific costs:		
Remaining joint costs		159,000
Separable joint costs		4,000
Total, joint land use and facilities		0
Nonreimbursable limit of formula		1,068,000
Amount reimbursable		267,000
Amount nonreimbursable		0
Reimbursement:		
Irrigation allocation	4,339,000	4,336,000
Paid by water users	1,100,200	1,100,200
Paid by power revenues	3,238,800	3,235,800

¹ Analysis based on 100 years at 3 percent interest. All fish and wildlife costs nonreimbursable. No joint costs to recreation.

² Analysis based on 100 years at 3 percent interest. No fish and wildlife mitigation cost involved. Joint costs allocated to recreation.

Mr. HOLUM. Thank you, Mr. Chairman. Certainly I have been as impressed as the committee with the testimony of the witnesses who preceded me to the table this morning supporting the Whitestone Coulee project.

This is an excellent project, one that we in the Department hope will be authorized and constructed in a short period of time. We feel equally strong that the lower Teton project, which you are going to be considering in a few minutes, is a meritorious project, and we think that it too ought to be authorized and constructed; that both projects will make a valuable contribution to the economy of the affected areas and the economy of the whole country.

The Bureau of Reclamation people are here and they will be prepared to supply the committee with information that applies to the specific works of the two projects, the cost-benefit ratio, and other information that the committee might desire. It seemed appropriate to me, however, Mr. Chairman, because these two projects are both in the area served by the Bonneville Power Administration, and the administration has proposed amendments to both of the bills that will be considered for authorization of these two projects, that I make myself available this morning to explain to you why the administration is recommending these two amendments.

The Whitestone Coulee project was originally considered as a very important and valuable unit to follow on the heels of the authorization and construction of the Chief Joseph Dam on the Columbia River. The lower Teton project is a project that has been developed

in eastern Idaho as a direct result of the very disastrous flood in early 1962 in that area. Both of these projects are highly meritorious.

As Senator Magnuson already noted, the Whitestone Coulee project has a benefit-to-cost ratio in excess of 5 to 1. The benefit-to-cost ratio in the lower Teton project is in excess of 2 to 1.

They are both good projects from a financial point of view. However, like most reclamation projects, the irrigation features require financial assistance. Traditionally that financial assistance has come from the power feature of the multipurpose water resource development projects which support them. The legislation as introduced in the case of the lower Teton project calls for that assistance to come from the Bureau of Reclamation projects in southern Idaho. In the case of Whitestone Coulee it is from the Chief Joseph Dam. The amendments to the two pieces of legislation which the administration has proposed suggest that this financial assistance come from the Bonneville Power Administration system of the entire Columbia River system of the four States in the Pacific Northwest.

We are making that recommendation this morning because of changes that have occurred in the management of the power resources of the Pacific Northwest. Since this committee last considered irrigation projects in the Pacific Northwest, the Department of Interior has adopted and approved a consolidated payout formula for the Bonneville power system.

This in effect puts all of the projects together, the hydroelectric project, the irrigation projects, and from the financial point of view gives us the opportunity to look at the entire Pacific Northwest system as one system. For that reason we are recommending today that both of these acts be amended to provide that the necessary financial assistance that must come from power revenues come from the entire system of the Pacific Northwest.

This of course raises the question whether or not the Bonneville system is able to provide that assistance.

We are happy to be able to inform the committee that despite the concerns that have been raised at the present time the Bonneville power system is still ahead of schedule in its repayment obligations. It is true the surpluses have been reduced. They are now slightly over \$20 million. The Department has this matter under intensive and current review, complicated at the moment by the fact that the Congress has very wisely and very appropriately granted to the Department an appropriation of \$8½ million to work out interconnection arrangements between the Pacific Northwest and Pacific Southwest. This is going to substantially improve the financial position of the Bonneville power system.

Most of our financial difficulties result from the fact that we have been unable to market all of the capacity and all of the energy that this fine hydroelectric power system produces.

But we are prepared and we will as appropriate deal with the financial problems of the Bonneville power system. The committee can authorize these two projects with their financial support coming from the Bonneville power system with an assurance that the Department will do what has to be done to make certain that these revenues are available.

I might call to your attention that in the case of both of these projects, most of the lands are currently developed lands; which do not require a development period. Some of the financial obligations will fall due prior to 2022 when we consider that all of the power facilities of the Bonneville system will be completed. These are very modest amounts, however, and they will not noticeably or appreciably effect the current financial situation as far as the Bonneville power system is concerned. Most of the obligations will fall due after power pays out. When that is achieved, the Bonneville system will produce in excess of \$100 million a year available to the Treasury and available for the assistance of irrigation development in the area.

The other amendments that the administration is proposing to the two pieces of legislation which you are considering this morning have to do with cost allocations and the uniform policies with respect to the treatment of recreation and fish and wildlife benefits from these projects.

I have noted since preparing our legislative report on the White-stone Coulee bill that the language regarding recreation facilities contained in the bill is not identical to that which we have been using in other bills recently. I submit for the consideration of the committee alternative language for section 3(a) which would make this bill consistent in regard to recreation with other recent submittals. It is our belief that this language will accomplish exactly the same purpose as would section 3(a) of the bill as presented.

If the committee sees fit to maintain identical language in all bills in this respect the following should be used. Rather than read the language, Mr. Chairman, I would like to submit it and I will get a clean copy and make it available for the committee.

(The document referred to, copy of section 3(a), follows:)

SEC. 3(a) The Secretary is authorized to construct, operate, and maintain or otherwise provide for basic public outdoor recreation facilities, to acquire or otherwise to include within the unit area such adjacent lands or interests therein as are necessary for present or future public recreation use, to allocate water and reservoir capacity to recreation, and to provide for the public use and enjoyment of unit lands, facilities, and water areas in a manner coordinated with the other unit functions. The Secretary is authorized to enter into agreements with Federal agencies or State or local public bodies for the operation, maintenance, or additional development of unit lands or facilities, or to dispose of unit lands or facilities to Federal agencies or State or local public bodies by lease, transfer, conveyance, or exchange upon such terms and conditions as will best promote the development and operation of such lands and facilities in the public interest for recreation purposes. The costs of the aforesaid undertakings, including costs of investigation, planning, Federal operation and maintenance, and an appropriate share of joint costs of the unit, shall be nonreimbursable. Nothing herein shall limit the authority of the Secretary granted by existing provisions of law relating to recreation development of water resource projects or to disposition of public lands for recreation purposes.

Mr. HOLUM. The administration has had under consideration for a rather lengthy period of time legislation to provide for these uniform standards. The legislation has been prepared and submitted to the Congress by the administration. It has been introduced in the House by Chairman Wayne Aspinall of the House Interior Committee, identified as H.R. 9032. For the information of the committee I have prepared and attached to my statement the effect of the application of H.R.

9032 on these two projects, in tabulated form. The effect will be insignificant in the case of both of these projects because the amount of dollars effected is minimal.

I think, Mr. Chairman, this is a brief summary of the amendments that the administration is recommending to these two bills. We are here hoping, of course, that the committee will see fit to accept these amendments, and that we will go ahead and authorize and construct at an early time these two very important additions to the reclamation system in Idaho and Washington.

Thank you, Mr. Chairman.

Senator Moss. Thank you, Mr. Holum. We will consider carefully these proposed amendments that the committee has not had time to study yet. I understand from your testimony that there are adequate revenues in the Bonneville system now, even if you didn't get improvement, is that right, if we didn't get any marketing change?

Mr. HOLUM. The Bonneville system at the present time has surpluses in excess of \$20 million. These surpluses have been declining. We expect the arrangement that we will work out on the interconnection will substantially improve those revenues. If it is not sufficient, we will take other steps in the Department to make certain that the Bonneville system is on the financial basis that the Department and the Congress want it to achieve.

Senator Moss. Thank you. Senator Jackson, any questions?

Senator JACKSON. I think I will defer any questions at this time.

Senator Moss. Senator Church?

Senator CHURCH. No questions at this time, Mr. Chairman.

Senator Moss. Senator Jordan.

Senator JORDAN. One question, Mr. Chairman. Perhaps the Secretary could explain one item. On the Whitestone Coulee unit here I notice a nonreimbursable item of \$806,000 classified as area redevelopment. This is the first I have seen of such an item in a reclamation project. Could you explain that to us?

Mr. HOLUM. Yes; I would be happy to. The area where this project will be constructed is a distressed area, and under the formula established by the President for evaluating projects we have taken credit in cost allocation for the contribution that this Whitestone Coulee unit will make in increased employment opportunities and better economic welfare for the county.

Those benefits are evaluated on that basis.

Senator JORDAN. Will you supply for the record how you do that? This is new to me and I would like to see how you ascertain the precise figure of \$806,000 in this instance.

Mr. HOLUM. We will be very happy to do that, Senator.

Senator Moss. That will be placed in the record.

(The document referred to follows:)

AREA REDEVELOPMENT BENEFITS, WHITESTONE COULEE UNIT

Current economic evaluation procedures permit the measurement of benefits attributable to the value of labor and other resources required for the construction and operation of a project, when in its absence these resources would not be fully utilized. Such benefits are to be identified as area redevelopment benefits, and their significance taken into consideration for project justification.

Based on the criteria set forth in the Area Redevelopment Act of 1961 (75 Stat. 47), Okanogan County, Wash., has been designated as a "redevelopment area." Whitestone Coulee unit, Chief Joseph Dam project, is located in this area.

In evaluating the benefits which would accrue from area redevelopment, wages paid to operators, skilled and unskilled workers, and wages for project operation and maintenance were considered.

Labor inputs necessary for the construction of the unit were estimated through use of information obtained from two recently constructed projects in region 1. The biweekly payroll records of contractors for comparable features of the Crooked River and Rogue River, Talent division, projects, Oregon, were analyzed in obtaining the basic data for projecting the construction labor inputs for the Whitestone Coulee unit.

Information obtained from the Employment Security Department, State of Washington, for Chelan County is considered to be comparable for unemployment conditions in adjacent Okanogan County. The unemployment rolls include large numbers of construction workers in the skilled and semi-skilled classifications as well as many workers in the unskilled classifications. Inasmuch as the Whitestone Coulee unit is located fairly close to the Chelan County line it appears reasonable to assume that a high percentage of the required construction workers in all three classifications would be recruited from Chelan and Okanogan Counties for the Whitestone unit. Area redevelopment benefits attributed to project construction are presented in the table which follows.

Personnel required for operation and maintenance of the Whitestone Coulee unit will be recruited from the local labor market and will receive salaries estimated at \$13,990 annually. It is anticipated that local people will be available to fill these jobs and the full value of the wages that would be paid the operating personnel has been included as a redevelopment benefit. However, these wages were claimed only for a period of 20 years.

Benefits resulting from the construction and operation of the Whitestone Coulee unit are estimated to be \$38,500 annually.

Computation of benefits

Item	Amount	Capitalized	Benefits, 100 years
Project O. & M. wages.....	\$13,990	\$208,140	\$6,590
Construction labor wages.....	1,007,720		31,890
Total.....			38,480
Rounded.....			38,500

The area redevelopment benefits derived in the table above were used in the standard separable costs-remaining benefits method of cost allocation to determine the proper allocation of Whitestone Coulee unit costs to this purpose, as demonstrated in the following table.

Cost allocation—Separable cost-remaining benefit method (100 years, 3 percent)

Item	Irrigation	Recreation and fish and wildlife enhancement	Area redevelopment	Total
Total costs to be allocated:				
Construction.....				\$5,238,000
Interest during construction.....				243,000
Operation, maintenance, and power.....				34,085
Annual equivalent values:				
Construction costs.....				165,780
Interest during construction.....				7,690
Operation, maintenance, and power.....				34,085
Total.....				207,555
Benefits.....	\$1,108,300	\$5,985	\$38,500	1,152,785
Alternate costs.....	201,795	(¹)	(¹)	
Justifiable expenditure.....	201,795	5,985	38,500	246,280
Separable costs, specific:				
Construction.....		5,030		5,030
Interest during construction.....		230		230
Operation, maintenance, and power.....		500		500
Total.....		5,760		5,760
Separable joint				
Construction.....				
Interest during construction.....				
Operation, maintenance, and power.....				
Total.....				
Total separable:				
Construction.....		5,030		5,030
Interest during construction.....		230		230
Operations, maintenance, and power.....		500		500
Total.....		5,760		5,760
Remaining justifiable expenditure.....	201,795	225	38,500	240,520
Percent distribution.....	83.90	0.09	16.01	100
Remaining joint costs:				
Construction.....	\$134,870	\$140	\$25,740	\$160,750
Interest during construction.....	6,260	10	1,190	7,460
Operation, maintenance, and power.....	28,200	10	5,375	33,585
Total.....	169,330	160	32,305	201,795
Total allocated costs:				
Construction.....	134,870	5,170	25,740	165,780
Interest during construction.....	6,260	240	1,190	7,690
Operation, maintenance, and power.....	28,200	510	5,375	34,085
Total.....	169,330	5,920	32,305	207,555
Total allocated costs:²				
Construction.....	³ 4,262,000	163,000	813,000	³ 5,238,000
Interest during construction.....	198,000	7,000	38,000	243,000
Operation, maintenance, and power.....	28,200	510	5,375	34,085

¹ Not estimated, but exceeds benefits.

² Capitalized construction and interest during construction.

³ Does not include \$74,000 in funded irrigation operating costs.

DETERMINATION OF AREA REDEVELOPMENT BENEFITS FROM WATER RESOURCE PROJECTS

A paper prepared by the Area Redevelopment Administration, Department of Commerce, with the cooperation and assistance of other Federal agencies involved in water resources development.

PREFACE

The President on May 15, 1962, issued a policy providing for the application of standards to water resource plans which would take into account appropriately conditions of chronically idle human and other resources. Reference was specifically made to areas designated under the Area Redevelopment Act of 1961 as areas of persistent and substantial unemployment and underemployment.

The Area Redevelopment Administration has given considerable thought to the preparation of general guidelines to facilitate the President's policy in the formulation and evaluation of water resource plans. In these deliberations, the Area Redevelopment Administration has benefited from the expert and informed advice of technicians from the Departments of Agriculture, Army (Corps of Engineers), Interior, and Health, Education, and Welfare.

This statement is issued to provide an initial and general guide for quantifying redevelopment benefits from water-resource projects located in, or affecting, officially designated redevelopment areas.

It is recognized that the guidelines set forth here are not sufficiently detailed or precise to remove all technical problems of identification and measurement of redevelopment benefits. They are believed to provide a reasonably cohesive body of principles for evaluation of projects by the various agencies having an interest in water resource development, although such agencies may need to develop certain parts in more precise terms for their particular operations.

While not an interim report, this statement may be altered in the course of time as the result of further experience.

The purpose of this statement is to provide an initial basis for quantifying redevelopment benefits from water-resource projects in areas designated by the Area Redevelopment Administration as redevelopment areas. Such benefits may be added to the direct project benefits that are normally considered by water-resource development agencies.

The policy approved by the President on May 15, 1962, and issued as Senate Document No. 97, 87th Congress, 2d session, provides that—

“Formulation and evaluation of plans or alternative plans shall be accomplished in such a way as to permit timely application of standards appropriate to conditions of: (a) less than full employment nationally, and (b) chronic and persistent unemployment or underemployment in designated areas. Standards appropriate to (a) shall be those adopted at the time of existence of such condition and authorized by the President. Standards appropriate to condition (b) shall be used where an area has been so designated under the Area Redevelopment Act of 1961 (75 Stat. 47) or other authorized procedures relating to resource underemployment. In condition (b) project benefits shall be considered as increased by the value of the labor and other resources required for project construction, and expected to be used in project operation, project maintenance, and added area employment during the life of the project, to the extent that such labor and other resources would—in the absence of the project—be unutilized or underutilized. Such benefits should be clearly identified as redevelopment benefits for the purposes of cost allocation, cost-sharing procedures, and to indicate their significance for project justification.”

National, regional, State, and local settings

Although redevelopment benefits are applicable only to areas designated under the Area Redevelopment Act, they are to be determined with due consideration of other areas and the Nation as a whole. The policy in Document No. 97 provides in this respect as follows:

“Well-being of all the people shall be the overriding determinant in considering the best use of water and related land resources. Hardship and basic needs of particular groups within the general public shall be of concern, but care shall be taken to avoid resource use and development for the benefit of a few or the disadvantage of many.

“All viewpoints—National, regional, State, and local—shall be fully considered and taken into account in planning resource use and development.

“Significant departures from a national viewpoint required to accomplish regional, State, or local objectives shall be set forth in planning reports by those charged with their preparation.”

The requirement for a broad geographic perspective for evaluation of water-resource projects rules out an approach which would aggregate the area redevelopment benefits, regardless of repercussions on other areas, and establish a project priority on the basis of such a computation. Furthermore, such approach would be incompatible with the method utilized by water-resource agencies for determining direct project benefits by their traditional procedures.

This statement suggests a procedure that is responsive to the policy for considering water-resource projects in the broad geographic setting and that at the same time maintains comparability among all types of benefits attributable to a project.

Assumption of national and regional growth

Senate Document No. 97 specifies that water-resource projects shall be reviewed in the context of national growth. It states:

"Formulation an devaluation shall normally be based on the expectation of an expanding national economy in which increasing amounts of goods and services are likely to be required to meet the needs of a growing population, higher levels of living, international commitments, and continuing economic growth. Such an environment will necessitate relatively high and efficient levels of resource employment and a pattern of production in balance with the anticipated demand for goods and services."

In accordance with this provision, the benefits of a project should be based not upon economic conditions as of a fixed date but upon a reasonable expectation of trends. We believe that an allowance should be made for whether the growth rate in the major sector of the country in which the project is located is high or low in relation to the national average. The growth rate for the gross national product might be assumed to range as high as 4½ to 5 percent annually in a high-growth sector and as low as 3 to 3½ percent in a low-growth sector with an average growth for the country falling within these ranges. Projections of population growth in various States will provide a valuable clue to economic growth.

These rates may be used in computations in the absence of evidence that a different rate of growth may prevail for the period that is pertinent to the project. Although any growth rate must be based on assumptions that are somewhat arbitrary, the use of a trend that is within a reasonable range is far better than assuming a static condition in which growth is ignored.

Assumption of long-term readjustment

We believe experience has shown that most redevelopment areas do not usually remain permanently distressed. In a growing national and regional economy, these areas will, as a rule, make a slow adjustment to relieve their distress either through better use of their resources or through outmigration. The time required for the readjustment will depend on a number of factors, including the latent resources that may be developed or utilized in the near future. A most significant point is that areas which suffer primarily from unemployment tend to adjust in a shorter time than areas, such as many rural areas of the South, characterized by underemployment and low income. In recognition of this important difference, we propose using a period of 15 to 20 years for areas that are classified as 5 (a) areas under the Area Redevelopment Act and 20 to 25 years for areas that are classified as 5 (b) areas. In practical application, these periods may date from the beginning of construction activity.

Alternatives available for the redevelopment of an area

Water is such a universally used resource and demands for its use are so large and continuing to expand that its availability is becoming a widespread problem. The redevelopment of an area may depend heavily on what is done with this resource to enhance its utility. Consideration of a water-resource project should therefore recognize that a distressed area is usually faced with three choices:

1. To utilize its water resources as a vehicle for its redevelopment.
2. To depend on other types of projects for accomplishing the redevelopment.
3. To reduce unemployment and underemployment by outmigration of employable persons and partial abandonment of the usable facilities (with accompanying loss of investment) of the area.

The redevelopment program of the Federal Government emphasizes the need for efforts to find economic employment of the underutilized resources of a redevelopment area, and hence primary efforts are centered on redevelopment, although outmigration is not deliberately hindered. Indeed, retraining might facilitate the process.

Water is a major developmental resource in the areas of deficient utilization of labor. It is a key resource in the development of manufacturing and tourism, and until it is harnessed to provide water supply, flood-free industrial sites, and lakes for recreation, private investment and development are stymied. Unless the limited resources of these areas are aggressively developed, the alternatives available are likely to be continued idleness or partial idleness of the employable population or withdrawal of labor from the area accompanied by the further serious losses and other problems that arise when an area is partially abandoned. Consequently, the need to include water-resource projects as a part of the re-

development program should be thoroughly explored in any area where water may play an important role.

Equating benefits and costs on a uniform basis

Benefits from a water-resource project arise during two major stages, the construction stage and the project-use stage. The benefits are not distributed evenly over the period from the time that the project is started until its useful life is ended, and the distribution does not coincide with the distribution of the costs that are used in calculating the benefit-cost ratio. This uneven distribution should be taken into account in the computations.

We believe that the best procedure developed thus far is first to calculate all benefits and costs as of the completion date for construction of the project, or usable portions of the project. Second, these estimates should be apportioned on an annual basis over the life of the project to show annual average benefits and costs. The rate of interest prescribed for water-resource projects should be taken into account in adjusting the benefits and costs to the construction completion date and apportioning them over the project life.

Benefits from project construction, operation, and maintenance

As noted earlier, Senate Document 97 provides for adding to the project benefits the value of labor and other resources required for project construction and for expected project operation and maintenance to the extent that such labor or other resources would be otherwise unutilized or underutilized. This policy is assumed to refer to the portion of the project expenditures that go to the redevelopment area rather than to the total expenditures. When there is reason to believe that substantially all the benefits to the local redevelopment area will be represented by labor, the wages paid may be taken as a measure of the redevelopment benefits from this source. Allowance should be made for labor imported from outside the redevelopment area. Labor from within the redevelopment area need not be unemployed to be assigned the wage benefit, since presumably the job they vacate will be available to someone else who is unemployed. Although the wages may be properly regarded as a contribution to the area that reduces the real cost of the project, Senate Document 97 specifies their usage on the benefits side of the benefit-cost ratio. As described earlier in this statement, these benefits are estimated as of the completion date of the project, or usable project feature, and then apportioned over the life of the project.

The redevelopment benefits from project operation and maintenance may be properly included on a descending scale for the limited period of 15 to 20 years for 5(a) areas and 20 to 25 years for 5(b) areas.

Benefits from a water-resource project resulting from its stimulation of economic activity

The net benefits that may arise from a water-resource project through its stimulation of economic activity in an area are difficult of precise determination. In view of the complexities involved, it is necessary to rely heavily on probability analysis and empirical judgment. Although various bases for computation are possible, we believe that the requirements of Senate Document 97 can best be met by calculating the various impacts of the project primarily in terms of the portion of the wages that benefit the redevelopment areas while contributing to national growth.

By enabling a redevelopment area to achieve an economically competitive footing with other areas, the area may employ gainful workers locally instead of following the route of losing its manpower and underutilizing its facilities and basic resources. Although the total wages from project-induced employment might appear to be a net increase in the national income for as long as the area may otherwise be expected to have conditions of abnormal unemployment, the estimate needs to be adjusted downward substantially unless an entirely new industry is introduced. The gains in one redevelopment area may be counterbalanced in part by losses in competitive areas, and because when workers find full-time employment, they and their families are likely to rely less on odd jobs and other subsistence efforts which do represent a degree of useful production.

The economic effect of competitive losses will be less telling in prosperous areas (nonredevelopment areas) than in affected redevelopment areas because of the high capability and resilience of the prosperous areas to adjust their economies in a variety of ways to overcome the effect of the losses. Prosperous areas are usually diversified and have more opportunities. As a rule, they are likely to be more responsive than redevelopment areas to general measures of

economic growth despite their smaller reserve of manpower for achieving the response. This is becoming increasingly apparent as automation gains impetus.

When areas have a sufficient resource base or access to resources combined with sufficient diversification and adaptability, economic dislocation is not likely to occur or are minor and temporary. An ideal condition of economic resiliency, of course, does not exist, but some areas approach it more nearly than others.

Distress areas are characterized generally by—

1. Dependence on specialized resources that have been depleted or whose utilization has failed to keep pace with national growth potentials or has declined;
2. A failure to find uses for old resources or to develop and utilize new resources with latent possibilities; and
3. A general lack of adaptability of their economies.

If deliberate economic stimulation is not provided, a redevelopment area will usually make only a slow adjustment to reduce the idleness that it experiences. A water-resource project may be the means to touch off utilization of other resources and provide a base for economic activity which is far preferable to the alternative of maintaining persons in idleness on a subsistence basis by accelerating the recovery of the area. This view assumes (what appears to be almost universally true of redevelopment areas) that there is an insufficiency of promising economic measures on which to base redevelopment, and, accordingly, any project which will accelerate redevelopment should have high economic justification unless the direct benefits of the project are exceptionally low in relationship to project costs. Lack of alternatives tend to make opportunity costs of water projects negligible.

Because water is one of the most universal resources, water-resource development becomes a usual consideration and a key feature in redevelopment programs. The principal problem to be faced is the relative emphasis and rating of projects for this type of development.

Although it is not possible at this time to present a precise method of evaluation, it is possible to consider the projects on a systematic basis and to assign ratings that give a substantially accurate comparison of redevelopment benefits for projects that will at the same time help or accelerate national growth.

The system for rating the project-induced redevelopment benefits of water-resource projects proposed for accomplishing this objective is based on the following three classes of benefits:

1. Gains in wage payments in industries that are directly induced to locate in a redevelopment area as a result of the water-resource project.
2. Gains in wage payments in secondary industries that are created or expanded as a result of the directly induced industry.
3. Benefits from the improved utilization of idle resources other than labor which results from the strengthening of industrial activity in the area.

Directly induced wage benefits

When a water-resource project will induce an industry to locate in a redevelopment area on an economic basis, a redevelopment benefit should be credited to the project. It should be noted that the water project in such an instance deserves to be credited with such benefits, since it is one of the rare instruments of public policy that can be effective, and without it the other factors of production under private control would not be brought into play to utilize underemployed resources. The justifiable amount of redevelopment benefit will be small if the industry induced by the water project will compete mainly with industries in other redevelopment areas which have economic problems of a severity similar to those in the area directly affected by the water-resource project. Even in such instances, if the particular products of the industry in question have an elastic demand, the offsetting effects in other redevelopment areas would be minor, since it can be assumed that such industries could locate in several areas, and establishment in one area would not necessarily preclude others. However, even projects which result in minor gains may reasonably be assumed to contribute a benefit in the range of 5 to 10 percent. We suggest that, pending further study, a minimum of 7 percent of the wage benefits in the directly induced industry be credited as an area redevelopment benefit even when the product has nonelastic demand characteristics and competes with similar products in other redevelopment areas. This benefit will be in the range of 1 to 3 percent of the value of the industrial product for most industries.

(An important consideration in the choice of the percentage of wage payments to be attributed to a project is that when labor costs are a high proportion of the value of the project, labor surplus areas tend to have a magnified advantage over other areas.)

If a project-induced industry, on the contrary, is competitive only with industries in other areas that have a low unemployment and a high capability of readjusting their economies to new conditions, the net redevelopment benefits may show a strong probability of going as high as 20 percent of the wage payments in the project-induced industry. This level, which is suggested as a general maximum for project evaluation, would range from 3 to 9 percent of the value of the project for most industries. A higher percentage may be justified in exceptional cases, but we believe that an increased percentage should be credited only in those cases in which the project-induced industry is largely new or otherwise noncompetitive, or it is competitive only with industries in areas that experience labor stringencies.

In determining the percentage to be applied to a project, interindustry competition should be taken into consideration. For example, allowance should be made for the fact that a building material may compete with other materials, a metal may compete with other metals or materials, and a fuel with other fuels.

The benefits should be assumed to decrease over a period of 15 to 25 years in accordance with the procedure outlined previously.

Secondary wage benefits

Economic benefits of a water-resource project are generated in secondary industries, such as trade and services industries, as well as in industries that are directly affected by the project. All the redevelopment benefits of the project should be included, whether they are directly induced or secondary.

Secondary benefits will tend to be proportionate to the directly induced redevelopment benefits both regionally and nationally. The percentage will be larger and more uniform in terms of wages than in terms of the number of persons employed because the stimulation of the industries will tend to increase the average earnings per worker when there is underutilization of the labor force. Our analyses indicate that, in terms of wage payments, 60 percent is a reasonable share to add as a multiplier factor to the directly induced benefits to allow for the benefits in secondary activities. The allowance should be made for the usual readjustment period of 15 to 25 years.

Senate Document No. 97 provides for including in the benefit computation the value of labor and "other resources" required for a project. These other resources are subject to much the same kind of considerations as wage benefits in determining the net national benefits of a project. In effect, these resources represent "sunk investments" and no charge as a cost other than the increased maintenance that may be required for their use.

In order to relate the benefits from increased returns to such sunk investments to the specific water resource project and to provide a consistent basis for computation, an allowance is suggested in terms of a percentage of the wage payments in the directly induced industrial activity. It is suggested that a rounded figure of 5 percent be used for benefits of this type. All these benefits should be computed on the descending scale applied to the transition period of 15 to 25 years assumed for redevelopment areas.

Relationship of redevelopment benefits to direct project benefits and costs

Redevelopment benefits estimated for a water-resource project are in addition to the direct project benefits now computed by water-resource development agencies. They should be clearly identified as redevelopment benefits in accordance with the provision in Senate Document No. 97.

The approach presented in this statement for the computation of area redevelopment benefits does not require any change in the method of computing either the direct project benefits or costs, except where necessary to achieve the coverage required in Document No. 97. The area redevelopment benefits are on a comparable basis. The estimated project cost is suitable as a common denominator for both types of benefits in computing the benefit-cost ratio.

Although benefit-cost ratios are useful in evaluating a project, we believe they should not be used exclusively. The detailed economics of a project should be examined, especially in borderline cases, in arriving at a decision on whether the project should be undertaken.

Summary

The method of computing area redevelopment benefits recommended to conform to the provisions of Senate Document No. 97 may be summarized as follows:

1. Include all wage payments to local redevelopment area labor for project construction.

2. Include all wage payments also to local redevelopment area labor for project operation and maintenance for a limited period, as noted below.

3. Calculate all other benefits also for a limited period as a proportion of the wage payments in project-induced industries as follows:

(a) Credit the project with 7 to 20 percent of the wage payments in the directly induced industrial activity, the range depending on the economic adjustment capability of the areas with which the industry would compete.

(b) Credit the project with benefits arising from increased employment in secondary industries equal to 60 percent of the wage benefits calculated for the directly induced industrial activity.

(c) Credit the project with benefits from utilization of idle resources other than labor equal to 5 percent of wage benefits calculated for the directly induced industrial activity.

4. Calculate the benefits from operation and maintenance and "all other benefits" on a descending scale over a period of 15 to 20 years for 5(a) redevelopment areas and 20 to 25 years for 5(b) redevelopment areas beginning with the date that the project construction is started.

5. Allow for differences in the time of occurrence of benefits by distributing them on an annual basis over the life of the project, taking into account the rate of interest prescribed for the project.

Senator Moss. Thank you, Mr. Holum. I appreciate very much your coming to testify.

Mr. Palmer, who is the Assistant Commissioner for Reclamation, will be the next witness. You have with you Mr. Nelson and Mr. Karl Lee. We welcome all of you gentlemen.

The statements that are prepared in advance by these officials of the Department will be placed in the record.

STATEMENT OF WILLIAM I. PALMER, ACTING ASSISTANT COMMISSIONER FOR RECLAMATION; ACCOMPANIED BY H. T. NELSON, REGIONAL DIRECTOR AT BOISE, IDAHO; AND J. KARL LEE, ASSISTANT CHIEF, DIVISION OF PROJECT DEVELOPMENT

MR. PALMER. Mr. Chairman, the Whitestone Coulee unit is designed to rehabilitate and enlarge an existing irrigation system which provides water to apple orchards in an area which is particularly well suited to this crop in northern Washington. This system has been in operation for many years, and the existing works, which were built by the water users, are deteriorated and not of sufficient capacity to permit expansion of the irrigated area.

Investigations of the Whitestone Coulee unit were conducted pursuant to the Chief Joseph Dam Project Act of July 17, 1952. Previous authorizations under this general legislation covered the Foster Creek and Greater Wenatchee divisions, which are now built or under construction, and the Oroville-Tonasket unit, Okanogan-Similkameen division, for which construction funds are requested this year. A feasibility report on the Chelan division is now before the Congress for consideration. However, in view of the policy change whereby the Federal Columbia River power system is now being operated and accounted for as a single coordinated system, we now propose that the pumping power and the financial assistance to irrigation required for the Whitestone Coulee unit be derived from the pooled power

source and revenues from the Federal power system rather than from the Chief Joseph Dam and powerplant.

The plan of development is described in our feasibility report, which was transmitted to the Congress on January 2, 1964, and which has been ordered printed as House Document 201, 88th Congress. Features of the unit which would be built or enlarged under this proposal are the diversion dam on Toats Coulee Creek, a long siphon, the main canal, works to increase the active capacity of Spectacle Lake, and various canals and pumping plants. Water would be delivered to 1,955 acres of presently irrigated land and 705 acres of new land.

Whitestone Coulee is a glaciated valley which was left high and dry when the glaciers retreated and the streamflows returned to the Similkameen River. Early settlers constructed works to bring water from Toats Coulee Creek, by gravity across the Sinlahekin Creek Valley, to recharge Spectacle Lake. From this source, several small canals have been built to water the lands. Parts of this system are now over 40 years old, increasingly costly to operate and maintain, and in danger of failure. The existing Whitestone Reclamation District does not have the financial resources to make the necessary repairs.

The existing Spectacle Lake is now stocked with fish and supports a limited recreation development. Our proposal would raise the normal water surface and increase the fishery value and the recreation opportunities. Basic facilities for recreation are included in the plan as well as acquisition of certain lands to assure public access and enjoyment. Construction and operation of fish protective facilities is also proposed.

Okanogan County, Wash., has been declared a "rural redevelopment area" under provisions of the Area Redevelopment Act of 1961. Construction and operation of the Whitestone Coulee unit would result in new jobs for qualified personnel in that area. A benefit is computed on the basis of the wages paid these new workers in the area.

As Mr. Holum has explained, it has been necessary to adjust the financial and economic analyses for this proposal to conform with the most recent laws, policies, and procedures affecting reclamation projects. The financial and economic data contained in the Department's report on the bill, and that which we present today, therefore, will differ slightly from the figures in the feasibility report.

The total estimated cost of the Whitestone Coulee unit is \$5,312,000, at April 1960 price levels, including funded operating costs during the development period and a portion of the cost of Bonneville Power Administration substation. This is tentatively allocated among project functions by the separable costs-remaining benefits method of allocation as follows: irrigation, \$4,336,000; fish and wildlife enhancement and recreation, \$163,000; area redevelopment, \$813,000. The irrigation water users will be able to repay about \$1,100,000 of the irrigation allocation, which includes \$74,000 of funded operation and maintenance costs, over the repayment period of 50 years. The remainder of the cost allocated to irrigation, \$3,236,000, will be returned to the Treasury from revenues derived by the Secretary from power marketed by the Bonneville Power Administration. Costs allocated to other functions would be nonreimbursable.

The irrigated lands of the Whitestone Coulee unit were originally devoted primarily to forage for livestock. In more recent years, the raising of apples has become the principal crop, and new orchards are

constantly being started. The existing district is serving irrigation water to 1,955 acres of land, of which 1,135 acres are in bearing orchards. Under future conditions, with the project, the entire productive acreage plus 705 acres of presently dry lands are expected to be in apple orchards. Since such orchards are costly to develop and take years to reach full production, we propose that a 10-year development period be allowed those farmers whose lands are not already in orchards. Operation and maintenance charges assignable to those lands during the development period which are beyond the ability of the farmers to pay would be funded and considered a part of the irrigation cost. The existing landownership pattern is primarily small farms, and conforming to the acreage limitations of reclamation law is not expected to cause any difficulty.

Our report on this project has been reviewed by all the interested Federal agencies and by the States of the Columbia River Basin. All comments received have been favorable to or have offered no objection to the Whitestone Coulee unit. It has been considered by the Bureau of the Budget and we have been advised that there is no objection to the report being transmitted to the Congress.

The development is economically justified, as demonstrated by the extremely favorable ratio of benefits to costs, 5.6 to 1. It is urgently needed to avert a financial disaster to the district if a major break in the system should occur. Local interests and representatives of the State of Washington have expressed their strong support for the plan of development. We have been advised of no opposition locally to our plan. We recommend your favorable consideration of the Whitestone Coulee unit and early action toward enactment of the authorizing legislation.

I would like to emphasize two or three further points. In the first place I would like to stress that the merits of this project have already been debated many times in this committee and in the Senate in connection with the Chief Joseph project in July 1952 and in other hearings on the Greater Wenatchee unit which is about 70 percent complete, and now the Whitestone Coulee. Hearings are scheduled on the Chelan division which would be actually the fifth division of the same project. These projects that I call to your attention provide the conservation benefits, irrigation benefits of the Chief Joseph Dam project.

There is little point of laboring the kinds and types of agriculture that have already been testified to, and the fact that this doesn't contribute to the crop surplus area. This has already been heard by this committee.

Now, on the base of April 1960 prices the project is estimated to cost \$5,312,000. It is allocated \$4,336,000 for irrigation and \$163,000 to fish and wildlife, and recreation and area redevelopment of \$813,000. Mr. Holm discussed this in part. May I simply remind the committee that the formula we use in determining this benefit is stated in S. 97, a Senate document, which enunciated the formula for evaluating projects.

Senator CHURCH. Mr. Palmer, out of which fund will the \$813,000 come?

Mr. PALMER. It would be regular appropriation money and would be handled exactly the same way that flood control is handled.

Senator CHURCH. It would not come from money appropriated to the ARA program?

Mr. PALMER. No, sir. The other point I would like to make is this project calls for the funding of operation and maintenance cost during the development period. During the time new orchards are being established and reach their productive capacity we would propose to fund operation and maintenance costs that were in excess of the water users' ability to pay.

These are now estimated at \$74,000. Now the project will be operated and maintained by the local people. Accordingly money would be sought in the annual appropriation to the Bureau of Reclamation and transferred to the water users to operate and maintain. That money is returnable and repayable and will be paid back and is included in the amount that is to be repaid by the water users. That is all I have to add to the testimony that has already been given.

We consider this to be an excellent project and support it wholeheartedly.

Mr. Nelson is here, the regional director from region 1. He can provide any further details you may desire or tell you about the plan.

Mr. Lee also.

Senator MOSS. Do either Mr. Nelson or Mr. Lee have a prepared statement or are they simply here to answer questions?

Mr. NELSON. We are here to answer questions.

Senator MOSS. As you pointed out, Mr. Palmer, this is really an additional unit of a series that have been going in in this general area, the Chief Joseph area.

Mr. PALMER. That is correct.

Senator MOSS. This use of power revenues from the Bonneville system is the pattern that we have evolved and are now using elsewhere in the country. It is also standard operating procedure now; is that right?

Mr. PALMER. That is correct, sir, and in the other three units that have been specifically authorized by the Congress, the use of Bonneville revenues has been anticipated, revenues from Chief Joseph Dam, not from the Bonneville system.

Senator MOSS. I assume that you confirm that this cost-benefit ratio is unusually high here?

Mr. PALMER. It is an unusually high benefit-to-cost ratio. It is an unusually good project.

Senator MOSS. Thank you. Senator Jackson?

Senator JACKSON. No question.

Senator MOSS. Senator Church.

Senator CHURCH. No questions.

Senator MOSS. Senator Jordan.

Senator JORDAN. No questions.

Senator MOSS. That concludes the hearing on S. 2447.

(Whereupon the committee turned to other business.)



