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GENERAL ACCOUNTING OFFICE · UNITED STATES

REPORT TO THE CONGRESS

Change Proposed In Interest Rate Criteria For Determining Financing Costs Of Federal Power Program

B-167712

Department of the Interior
Department of the Army

B-167712

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

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JAN 13,1970

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D C 20548

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C To the President of the Senate and the
Speaker of the House of Representatives

This is our report on the change proposed in interest rate criteria for determining financing costs of the Federal power program. Our review was made pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Director, Bureau of the Budget, the Secretary of Defense, the Secretaries of the Interior, Treasury, and Army, and the Chairman of the Federal Power Commission.

Elmer B. Staats

Comptroller General
of the United States

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COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

CHANGE PROPOSED IN INTEREST RATE CRITERIA FOR DETERMINING FINANCING COSTS OF FEDERAL POWER PROGRAM
Department of the Interior
Department of the Army B-167712

D I G E S T

WHY THE REVIEW WAS MADE

The costs to construct, operate, and maintain the facilities of the Federal power program are financed by appropriations from the Federal Government, except for the power program of the Tennessee Valley Authority. The Federal power agencies repay these costs from the revenues obtained from the sale of power. These agencies generally have included, as a part of the Government's investment in power projects, the interest costs on construction funds during the period the power projects were constructed and have included, as an annual operating expense of the projects, the interest payable on the Government's unrepaid investment.

The General Accounting Office (GAO) reviewed the interest rate criteria used by the Federal power agencies for computing the interest costs to be capitalized as part of the Government's investment in Federal power projects during their construction and for computing the annual interest payable to the Treasury on the Government's unrepaid investment in the projects.

The review was undertaken because, during GAO's continuing reviews of the Federal power agencies, it noted variations in the interest rates applicable to the individual projects constructed by the agencies. In this regard, a significant amount of information on interest rates and costs was available to GAO from its annual audits of the financial statements of the Federal Columbia River Power System Therefore, the Federal Columbia River Power System has been included in this report to d67 show that the Government's cost of financing the Federal power program has been significantly understated because of the use of interest rates below the cost of Treasury borrowing However, the matters dealt with in this report are not unique to the Federal Columbia River Power System and would be applicable to other power systems in the Corps of Engineers 305 and the Department of the Interior.

FINDINGS AND CONCLUSIONS

GAO found that the interest rate criteria used by Federal agencies in determining the cost of financing the Federal power program result in

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the use of interest rates that are not representative of the cost of funds borrowed by the Treasury during the period of construction of a power project (See p 6.)

For example, unless legislation directed otherwise, the Bureau of Reclamation has used a 3-percent interest rate while the Corps of Engineers has used an interest rate based on the average rate of interest payable by the Treasury on obligations outstanding at the close of the fiscal year preceding the year in which the initial construction funds were requested and which, upon issue, had terms of 15 years or more.

GAO believes that the Secretary of the Treasury should have the responsibility of prescribing annually an interest rate to be used in determining the interest costs to be capitalized as part of the Government's investment in power projects. GAO believes also that the rate prescribed should take into consideration the average market yield, during the year in which the investment is made, on the outstanding marketable obligations which the Secretary considers to be most representative of the cost to the Treasury of borrowing money to construct the power projects GAO believes further that the annual interest payments to the Treasury on the Government's unrepaid investment in a Federal power project should be computed on the basis of a composite of the average market yields used in computing the interest costs capitalized during the construction of the project.

GAO estimated that the interest rates used in the FCRPS, although in accordance with long-accepted criteria, have resulted in understating

- --capitalized interest costs during construction by about $22 million, for those major projects still under construction in fiscal year 1968 (See p. 10.) and
- --interest expense for fiscal year 1968 on the unrepaid Federal investment related to the transmission facilities of the Bonneville Power Administration by about $2 million (See p. 10)

RECOMMENDATIONS OR SUGGESTIONS

The finding, conclusions, and matters for consideration by the Congress were submitted to the Departments of the Treasury, Army, and Interior for comment

AGENCY ACTIONS AND UNRESOLVED ISSUES

The Treasury Department indicated agreement with GAO's conclusion that the Government's costs of financing the power program are not realistically stated when such costs are developed on the basis of the average rate of interest payable on Treasury obligations. The Treasury stated that it has recommended the use of current market yields on outstanding Government obligations of comparable maturity as the best measure of the cost to the Government of financing an activity (See p 16.)

The Army advised GAO that the Corps, in the future, will use the new interest rate prescribed by the Water Resources Council to calculate power costs (See p. 17.)

GAO believes that the Corps' use of the interest rate established by the Water Resources Council to determine interest costs for future projects will not result in a realistic measure of the cost to the Treasury of borrowing money during the period of construction of power projects. (See p. 17)

The Department of the Interior expressed general disagreement with GAO's position. (See p. 18) However, on October 27, 1969, the Secretary of the Interior announced an increase in the interest rates charged to new Federal power projects While the change is a significant improvement, GAO believes that it has the same weaknesses as the criteria adopted by the Corps.

MATTERS FOR CONSIDERATION BY THE CONGRESS

Because the interest rates used have not been representative of the financing costs, the Congress may wish to consider changing the interest rate criteria to provide that

--the interest costs to be capitalized as part of the Government's investment in power projects be based on an interest rate prescribed by the Secretary of the Treasury taking into consideration the average market yield, during the year in which the investment is made, on the outstanding marketable obligations which he considers to be most representative of the cost to the Treasury of borrowing money to construct the power projects and

--the interest to be paid to the Treasury annually on the Government's unrepaid investment in power projects be based on a composite of the average market yields used in computing the capitalized interest costs.

Contents

ABBREVIATIONS

BOB	Bureau of the Budget
BPA	Bonneville Power Administration
FCRPS	Federal Columbia River Power System
GAO	General Accounting Office
TVA	Tennessee Valley Authority

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

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Department of the Interior
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The General Accounting Office (GAO) reviewed the interest rate criteria used by the Federal power agencies for computing the interest costs to be capitalized as part of the Government's investment in Federal power projects during their construction and for computing the annual interest payable to the Treasury on the Government's unrepaid investment in the projects.

The review was undertaken because, during GAO's continuing reviews of the Federal power agencies, it noted variations in the interest rates applicable to the individual projects constructed by the agencies In this regard, a significant amount of information on interest rates and costs was available to GAO from its annual audits of the financial statements of the Federal Columbia River Power System Therefore, the Federal Columbia River Power System has been included in this report to show that the Government's cost of financing the Federal power program has been significantly understated because of the use of interest rates below the cost of Treasury borrowing However, the matters dealt with in this report are not unique to the Federal Columbia River Power System and would be applicable to other power systems in the Corps of Engineers and the Department of the Interior.

FINDINGS AND CONCLUSIONS

GAO found that the interest rate criteria used by Federal agencies in determining the cost of financing the Federal power program result in the use of interest rates that are not representative of the cost of funds borrowed by the Treasury during the period of construction of a power project. (See p 6.)

For example, unless legislation directed otherwise, the Bureau of Reclamation has used a 3-percent interest rate while the Corps of Engineers has used an interest rate based on the average rate of interest payable by the Treasury on obligations outstanding at the close of the fiscal year preceding the year in which the initial construction funds were requested and which, upon issue, had terms of 15 years or more.

GAO believes that the Secretary of the Treasury should have the responsibility of prescribing annually an interest rate to be used in determining the interest costs to be capitalized as part of the Government's investment in power projects. GAO believes also that the rate prescribed should take into consideration the average market yield, during the year in which the investment is made, on the outstanding marketable obligations which the Secretary considers to be most representative of the cost to the Treasury of borrowing money to construct the power projects. GAO believes further that the annual interest payments to the Treasury on the Government's unrepaid investment in a Federal power project should be computed on the basis of a composite of the average market yields used in computing the interest costs capitalized during the construction of the project.

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The Treasury Department indicated agreement with GAO's conclusion that the Government's costs of financing the power program are not realistically stated when such costs are developed on the basis of the average rate of interest payable on Treasury obligations. The Treasury stated that it has recommended the use of current market yields on outstanding Government obligations of comparable maturity as the best measure of the cost to the Government of financing an activity (See p 16)

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MATTERS FOR CONSIDERATION BY THE CONGRESS

Because the interest rates used have not been representative of the financing costs, the Congress may wish to consider changing the interest rate criteria to provide that

--the interest costs to be capitalized as part of the Government's investment in power projects be based on an interest rate prescribed by the Secretary of the Treasury taking into consideration the average market yield, during the year in which the investment is made, on the outstanding marketable obligations which he considers to be most representative of the cost to the Treasury of borrowing money to construct the power projects and

--the interest to be paid to the Treasury annually on the Government's unrepaid investment in power projects be based on a composite of the average market yields used in computing the capitalized interest costs.

INTRODUCTION

The General Accounting Office has made a review of the interest rate criteria used by the Federal power agencies in determining the interest costs of the Federal power program In this report, the term "Federal power program" is used to describe the electric power operations of the Federal Government However, due to the manner in which the Tennessee Valley Authority (TVA) finances its power program, as described below, the term, for purposes of this report, excludes TVA The scope of our review is described on page 21

The generating capacity of the Federal power program is produced by the Corps of Engineers, Department of the Army, and the Bureau of Reclamation, Department of the Interior, at multipurpose water resource projects throughout the United States and by TVA at multipurpose water resource projects and steam-generating plants in the Tennessee Valley Region The power generated at these projects is sold either by TVA or by the power-marketing agencies of the Department of the Interior--the Alaska Power Administration, the Bureau of Reclamation, the Bonneville Power Administration (BPA), the Southeastern Power Administration, and the Southwestern Power Administration

Except for the power program of TVA, the costs to construct, operate, and maintain the facilities of the Federal power program are financed by appropriations from the Federal Government The Federal power agencies repay these costs from the revenues obtained from the sale of power Since fiscal year 1961, the TVA power program has been financed by its power revenues and by the sale of its bonds and notes At its bond sale of June 3, 1969, TVA accepted a net annual interest cost of about 8 percent

The cost of financing the Federal power program is a significant portion of the total cost of the program. Federal power agencies have generally included, as a part of the Government's investment in power projects, the interest costs during the period the power projects were constructed and have included, as an annual operating expense, the interest payable on the Government's unrepaid investment

Because of the significant amount of information obtained during our annual audits of the financial statements of the Federal Columbia River Power System (FCRPS) in the Pacific Northwest, that System is used in this report to illustrate the need for a change in the interest rate criteria. However, the matters dealt with in this report are not unique to the FCRPS and would be applicable to other power systems in the Corps of Engineers and the Department of the Interior, such as the Missouri River Basin and the Colorado River Storage Project

The FCRPS is composed of the electric generation facilities of the Corps and the Bureau and the transmission facilities of BPA, which is the marketing agency for FCRPS At June 30, 1968, the accumulated interest costs included as a part of the Government's investment in the FCRPS totaled about $640 million, or about 16 percent of the total investment of about $3,935 million For fiscal year 1968, the net interest expense on the unrepaid Government investment in FCRPS was approximately $38 million, or about 38 percent of the total operating cost for the year.

The principal management officials responsible for the activities discussed in this report are listed in appendix IV

NEED FOR CHANGE IN INTEREST RATE

CRITERIA FOR DETERMINING FINANCING

COSTS OF FEDERAL POWER PROGRAM

On the basis of our review, we believe that the interest rate criteria used by Federal agencies in determining the cost of financing the Federal power program should be changed because the application of these criteria results in the use of interest rates that are not representative of the cost of funds borrowed by the Treasury during the period of construction of a power project.

INTEREST RATE CRITERIA ADOPTED BY THE FEDERAL POWER AGENCIES

Bureau of Reclamation

Unless legislation authorizing a power program has directed otherwise, the Bureau of Reclamation since 1956 has used a 3-percent interest rate for computing the interest costs to be capitalized as part of the Government's investment in FCRPS projects during their construction and for computing the annual interest payable to the Treasury on the unrepaid investment in the projects. The Bureau's use of a 3-percent rate is based upon its interpretation of section 9 of the Reclamation Projects Act of 1939 (43 U S C 485) Section 9(c) of the act states in part that

> "Any sale of electric power *** made by the Secretary [of the Interior] *** shall be for such periods, not to exceed forty years, and at such rates as in his judgment will produce power revenues at least sufficient to cover an appropriate share of the annual operation and maintenance cost, interest on an appropriate share of the construction investment at not less than three percentum per annum, and such other fixed charges as the Secretary deems proper "

Under this act, the Bureau established a 3-percent interest rate for the following projects of FCRPS

Boise
Minidoka
Columbia Basin (Grand Coulee Dam)
Hungry Horse
Palisades
Yakima-Roza Division

Legislation authorizing the Bureau to construct certain other FCRPS projects contains a formula for determining the interest rate for computing the interest costs to be capitalized as part of the Government's investment in the projects and the interest to be paid annually to the Treasury on the unrepaid investment in the projects The application of the formula resulted in an interest rate of 2-1/2 percent for the Yakima-Kennewick Division power project and an interest rate of 3-1/8 percent for the Grand Coulee third power plant.

Corps and other power marketing agencies

The Corps and the other power marketing agencies of the Department of the Interior have adopted the interest rate formula set forth in Senate Document 97, Eighty-seventh Congress, for computing the interest costs to be capitalized as part of the Government's investment in power projects during construction and the interest to be paid annually to the Treasury on the unrepaid investment in the projects. The formula provides that the interest rate be based on the average rate of interest payable by the Treasury on obligations outstanding at the end of the fiscal year preceding the year in which the computation is made and which, upon issue, had terms of 15 years or more.

It should be noted, however, that Senate Document 97 states that the interest rate formula was established for the purpose of formulation of comprehensive plans and project plans and should not be construed as establishing the rate of interest to be used for repayment purposes

At the time the initial construction funds are requested for a project, the Corps establishes an average rate of interest based on the formula set forth in Senate Document 97. This average rate is used for determining the financing costs during the entire period of construction For example, on the Lower Snake River, where projects have been authorized as units of a navigation system, the same interest rate has been applied to all units in the group regardless of when construction started The 2-1/2-percent rate initially established for the first unit--the Ice Harbor Project--has also been used for computing interest costs for the Little Goose, Lower Granite, and Lower Monumental projects which are presently under construction

UNDERSTATEMENT OF FCRPS INTEREST COSTS

In recent years, the interest costs capitalized as part of the Government's investment in the FCRPS projects during their construction period have been significantly understated because they have been determined on the basis of interest rates which, although established in accordance with long accepted interest criteria, do not represent the cost of funds borrowed by the Treasury during the period of construction of the projects

The interest costs capitalized as part of the Government's investment in the most recent FCRPS construction projects (the Corps' John Day Dam and the Lower Monumental Dam and that part of BPA's transmission facilities that was constructed since 1964) were computed on the basis of the average rate of interest paid on all long-term Treasury marketable obligations--those which had terms to maturity of 15 years or more at the time of issue--which were outstanding at the end of the fiscal year preceding the year in which the initial construction funds were requested

Therefore, the average interest rates used in capitalizing interest costs during the construction period of these projects include interest rates for some obligations that had been issued 15 years or more before the projects were started. In this regard, Treasury Department officials informed us that market conditions and the congressional limitation of a 4-1/4-percent interest rate on bonds has precluded the issuance, in recent years, of securities with maturities of more than 7 years.

The use of an average interest rate on long-term Treasury obligations outstanding at the time initial construction funds were requested for these projects, for computing the interest costs to be capitalized as part of the Government's investment in the projects, did not represent the cost of Treasury borrowing during the period of construction. For example, when construction of the John Day Dam was started in 1958, the Corps used an interest rate of 2-1/2 percent as contrasted to the then average market yield of 3-1/4 percent on Treasury securities which had comparable maturities.

The average market yield for use in 1968 on obligations with comparable maturities was 4-5/8 percent. Thus, it is evident that the inclusion of interest costs as a part of the Government's investment in the John Day Dam, during the construction period of 1958 through 1968, on the basis of an interest rate of 2-1/2 percent, has resulted in an understatement in the Government's cost of that project and in an understatement of the annual interest payable to the Treasury on the unrepaid investment. At June 30, 1968, the John Day Dam was still under construction.

Had the interest costs during each year of the period of construction of these facilities been capitalized on the basis of the average market yield on long-term Treasury obligations outstanding in each of those years rather than on the basis of the average interest rate on long-term Treasury obligations outstanding at the time the projects were started, the Government's investment in the projects would have been about $22 million more than the amount that was capitalized, as shown below.

	Capitalized interest cost through fiscal year 1968		
	As computed by agency using average interest rate	As computed by GAO using average market yield	Increase
John Day Dam (since 1958)	$26,200,000	$39,400,000	$13,200,000
Lower Monumental Dam (since 1961)	9,100,000	13,700,000	4,600,000
BPA transmission facilities (since 1964)	9,200,000	13,100,000	3,900,000
Total	$44,500,000	$66,200,000	$21,700,000

Also, the computation of the annual interest payments on the Government's unrepaid investment in the projects on the basis of a composite of the average market yields during the period of construction would have resulted in significant increases in the payments. For example, if the interest payments in fiscal year 1968 for BPA had been computed on that basis, we estimate that the interest payments to the Treasury would have been increased by about $2 million

CONSIDERATION GIVEN TO CHANGING INTEREST RATE CRITERIA

Bureau of the Budget (BOB) Circular No. A-47, dated December 1952, set forth the procedures to be used by the Executive Office of the President for economic evaluation of water resource projects proposed for construction. The circular provided, in regard to estimating reimbursements for projects with an expected economic life of longer than 15 years, that interest was to be computed at the average interest rate on interest-bearing marketable obligations of the United States outstanding at the end of the preceding fiscal year, which upon issuance had terms to maturity of 15 years or more.

In March 1955, the House Committee on Interior and Insular Affairs held hearings on BOB Circular No. A-47, during which a draft of a proposed amendment to the circular was discussed. The proposed amendment would have required the interest rate to be determined by the average annual yield to maturity of long-term Treasury obligations, on the basis of the daily closing market bid quotations during the month of June preceding the fiscal year in which construction of a proposed project begins. However, this proposed revision to the circular was not adopted and the criteria providing for the use of the average interest rate on Treasury obligations with original maturities of 15 years or more remained in effect.

Since 1955, some consideration has been given to the use of the market yield rate in determining the cost of financing water resource projects. For example, in the Colorado River Storage Project Act (70 Stat. 105), the Congress included an interest rate provision identical to the proposed but unadopted revision to BOB Circular No. A-47 requiring the use of a current average market yield to maturity on long-term Treasury obligations for projects authorized under the act

This market yield formula remained in effect for the projects authorized by the Colorado River Storage Project Act until 1960 when the act was amended by the Norman Project Act (43 U.S.C. 620d) which required the use of an interest rate for these projects based on the average interest rate on Treasury obligations with original maturities of 15 years or more. In a letter dated February 15, 1960, to the House Committee on Interior and Insular Affairs, the Under Secretary of the Treasury, in opposing the amendment, stated

> "The Treasury has consistently supported an interest rate policy for the determination of interest rates for Federal programs which takes into account the cost to the Treasury to borrow money in the current market as reflected by prevailing market yields on Government obligations with maturities comparable to those of the particular program."

In its report on this amendment, the House Committee on Interior and Insular Affairs stated that it had adopted the interest rate criteria, as contained in the Norman Project Act, in an effort for consistency and for treating all projects fairly and alike. The Committee concluded that, since the criterion providing for the use of the average interest rate on outstanding long-term Treasury obligations had been approved by the Congress in connection with water resource projects and was the latest expression of the Congress on this matter, it should be adopted for individual projects thereafter initiated.

In 1959, the TVA Act (16 U S.C 831n-4) was amended to require TVA to pay into the Treasury from power proceeds a return on the net appropriation investment. The amount of the return payable during each fiscal year is based on the appropriation investment as of the beginning of that fiscal year and on the computed average interest rate payable by the Treasury on its total marketable public obligations as of the same date.

In May 1962, the Secretaries of the Army, the Interior, Agriculture, and Health, Education, and Welfare transmitted to the President a new statement of policy and standards for evaluation of plans for the development of water and land resources. This statement, which was printed as Senate Document 97, dated May 29, 1962, sets forth a criterion for determining interest rates to be used in plan formulation and evaluation for discounting future benefits and computing costs, which is essentially the same as the criterion that had been contained in BOB Circular No. A-47. (See p. 12)

In 1967 and 1968, the Subcommittee on Economy in Government, Joint Economic Committee, held hearings on the interest rate guidelines which executive agencies were following in evaluating the feasibility of proposed Federal projects. Although not directly related to project costs or repayments, these hearings are pertinent since the interest rates used for economic evaluation of proposed projects have been applied in many cases in determining the interest costs of the project when constructed. In reference to the economic evaluation of proposed projects, a number of witnesses testified that the market yield on Treasury obligations is the true measure of the cost of Treasury borrowings rather than the interest rate criteria as contained in Senate Document 97.

The Water Resources Council was established by the Water Resources Planning Act of 1965 (79 Stat. 244). The Council's responsibility under the act includes the establishment of principles, standards, and procedures for the formulation and evaluation of Federal water and related land resources projects. Under the authority of the 1965 act, the Water Resources Council on December 24, 1968, with the approval of the President, amended the interest rate criteria, as contained in Senate Document 97. The Council's amendment provided that the interest rate criteria to be used in plan formulation and evaluation for discounting future benefits and costs to a common time basis be based upon the average yield during the preceding fiscal year on interest-bearing marketable securities of the United States which, at the time the computation is made, have terms of 15 or more years remaining to maturity.

The Council stated that the interest rate should not be raised or lowered more than one quarter of 1 percent for any year to give assurance that the rate would not be affected by inflationary or deflationary expectations in the bond market. To meet the need for a deflated interest rate, the Council established a new rate of 4-5/8 percent for the remainder of fiscal year 1969. This interest rate was based on the average of bid prices on outstanding Treasury obligations for fiscal year 1967, even though the average market yield for use in fiscal year 1969 was 5-1/8 percent.

Legislation has been introduced in the Ninety-first Congress, first session, to establish a uniform Federal policy for repayment of costs of Federal electric power projects and to provide the Secretary of the Interior with authority to carry out this policy This proposed legislation stated in part.

> "The interest rate used for computing the interest during construction and interest on the unrepaid balance of the Federal cost shall be determined by the Secretary of the Treasury as of the beginning of the fiscal year in which construction of the power facilities was, or is, as the case may be, initiated, on the basis of the computed average yield of outstanding marketable public debt obligations of the United States which were, or are, as the case may be, neither due nor callable for redemption for fifteen years from date of issue."

Legislation to authorize the construction, operation, and maintenance of the Touchet Division, Walla Walla Project, Oregon-Washington, has been introduced in the Ninety-first Congress, first session. Under this legislation, the interest rate would be based on the computed average interest rate payable by the Treasury on its outstanding marketable public obligations which are neither due nor callable for redemption for 15 years from data of issue This interest rate formula would be the same as that contained in Senate Document 97.

CONCLUSIONS

In our opinion, the costs of financing the Federal power program have been significantly understated because the interest rates used in computing the interest costs capitalized as part of the Government's investment in the program did not represent the cost of funds borrowed by the Treasury during the construction of the various power projects. We believe that the most appropriate measure of the financing costs associated with the construction of power projects is the average market yield on long-term Treasury obligations with maturities comparable to the period in which the Government's investment in the project is to be repaid. However, the ceiling on interest rates has resulted in the Treasury's marketing securities, in recent years, with maturities of 7 years or less.

Therefore, we believe that the Secretary of the Treasury should have the responsibility of prescribing annually, an interest rate to be used in determining the interest costs to be capitalized as part of the Government's investment in power projects. We believe also that the rate prescribed should take into consideration the average market yield, during the year in which the investment is made, on the outstanding marketable obligations which he considers to be most representative of the cost to the Treasury of borrowing money to construct the power projects.

We believe further that the annual interest payments to the Treasury on the Government's unrepaid investment in a Federal power project should be computed on the basis of a composite of the average market yields used in computing the interest costs capitalized during the construction of the project.

AGENCY COMMENTS AND OUR EVALUATION

In commenting on our draft report, the Under Secretary of the Treasury for Monetary Affairs in his letter to us dated February 25, 1969 (see app. I), stated in part, that

"As a matter of long-standing policy, and the proposed report quotes a 1960 Treasury letter on this point, the Department has recommended the use of current market yields on outstanding Government obligations of comparable maturity as the best measure of the cost to the Government of financing an activity. The essence of the argument is that, while the Treasury does not enter the market to borrow a specific amount for a specific period in order to finance an investment of an equal amount for the same period, it is compelled to have a comparably greater amount of debt outstanding over the period, and the most appropriate measure of the alternative cost involved is the current market cost of borrowing for comparable maturities."

By letter dated April 1, 1969, the Special Assistant (Civil Functions) for the Department of the Army (see app. II), advised us that the Corps will use the new interest rate prescribed by the Water Resources Council in calculating power costs.

The interest rate prescribed by the Water Resources Council is required to be used by the Federal power agencies for plan formulation and discounting future costs and benefits. In our opinion, however, the use of that interest rate by the Corps in determining interest costs during the period of construction of its power projects does not provide for a proper recognition of the cost to the Treasury of borrowing money.

As stated on page 14, the Council, instead of establishing the current market yield as the rate for the remainder of fiscal year 1969, computed a rate of 4-5/8 percent on the basis of the fiscal year 1967 average of bid prices on Treasury obligations, even though the average market yield for use in fiscal year 1969 was 5-1/8 percent. Under the Council's method the rate of interest for subsequent years would not be changed more than one quarter of 1 percent from the rate used during the previous year.

In addition, the Water Resources Council used the average daily bid prices on outstanding Treasury obligations which at the time of the computation had maturities of 15 or more years Because of market conditions and the 4-1/4-percent interest ceiling imposed by the Congress on long-term borrowings, the Treasury has been unable, in recent years, to issue any securities which have maturities of more than 7 years. (See p. 9.) Therefore, only a limited number of Treasury obligations will meet the Council's standard on maturities. Thus, not only has the Council restricted the size of its universe for determining the interest rate but it appears that the Council does not have an alternative if the Treasury cannot change its borrowing practices.

By letter dated September 11, 1969 (see app III), the Director of Survey and Review, Department of the Interior, in commenting on our draft report, stated that:

> "The conclusion of the report is that the interest costs of the Federal power program have been understated in recent years due to use of special rates set in legislation or the coupon rate. We cannot agree with that premise because the interest policy has been established in the context of other considerations, and we believe that, to the extent intended by Congress, total program costs are recovered."

The Director did not specify the other considerations that were involved in establishing the interest policy.

The Director stated also

> "*** that the criteria used to measure interest cost currently are not comparable to the costs being incurred by the Treasury for like obligations because Treasury suspended the practice of issuing long term bonds in 1963."

We pointed out in our draft report that the inability of the Treasury to issue long-term obligations was only one of the problems involved in using the criterion in Senate Document 97 to determine the cost of financing the Federal power program.

On October 27, 1969, subsequent to receiving the Department's comments on our draft report, the Secretary announced that a determination had been made to charge new Federal power projects interest rates which will better reflect the cost of money to the Government. He stated that a Secretarial Order would be issued calling for a 4-7/8 percent interest rate in fiscal year 1970 for payout purposes on new Federal electric power projects. This rate will be based on the average yields on long-term United States obligations and will be adjusted by not more than one half of 1 percent each July 1 to reflect more closely the cost of money.

While we believe that the change announced by the Secretary is a significant improvement, it is similar to, and has the same weaknesses as the interest rate criteria prescribed by the Water Resources Council and adopted by the Corps for determining interest costs during the period of construction (see p. 17).

As stated earlier in this report, we believe that the best measure of the cost to the Government of financing an activity is the current market yield on outstanding Government obligations of comparable maturity. Since the market yield is not being used to determine the financing cost of the Federal power program, the financing cost of the program is not representative, in our opinion, of the cost of funds borrowed by the Treasury during the period of construction of the various power projects.

Also, we are not questioning whether interest costs on existing projects are being recovered as intended by the Congress. Such projects are discussed in this report for the purpose of showing the significant understatement of the cost of the power program in order that the Congress may consider changing the interest rate criteria for application to future projects.

MATTERS FOR CONSIDERATION BY THE CONGRESS

Because the interest rates used in computing the interest costs capitalized as part of the Government's investment in Federal power projects and the interest to be paid to the Treasury annually on the Government's unrepaid investment in the projects have not been representative of the financing costs, the Congress may wish to consider changing the interest rate criteria to provide that

--The interest costs to be capitalized as part of the Government's investment in power projects be based on an interest rate prescribed by the Secretary of the Treasury taking into consideration the average market yield, during the year in which the investment is made, on the outstanding marketable obligations which he considers to be most representative of the cost to the Treasury of borrowing money to construct the power projects.

--The interest to be paid to the Treasury annually on the Government's unrepaid investment in power projects be based on a composite of the average market yields used in computing the interest costs capitalized during the construction of the projects.

SCOPE OF REVIEW

We reviewed pertinent legislation and congressional hearings, agency procedures and regulations, and financial records considered necessary to evaluate the reasonableness and propriety of the interest rate criteria used for determining the cost of financing the Federal power program. Our review was made primarily at the Washington, D.C., headquarters office of the Bureau of Reclamation, the Corps of Engineers, North Pacific Division, and the BPA offices located in Portland, Oregon.

In examining into the effect of the interest rate criteria used by the Federal power agencies in determining the interest costs of the Federal power program, we selected the Federal Columbia River Power System for detailed review because of the significant amount of information obtained during our annual audits of that System.

APPENDIXES

THE UNDER SECRETARY OF THE TREASURY
FOR MONETARY AFFAIRS
WASHINGTON 25 D C

February 25, 1969

Dear Mr Neuwirth

On behalf of Secretary Kennedy, I am replying to your letter of January 22 requesting comments on your proposed report to the Congress, "Need for Change in Interest Rate Criteria for Determining Financing Costs of Federal Power Program "

The proposed report concludes that the Government's costs of financing Federal power programs have been significantly understated because of the use of interest rates below the cost of Treasury borrowing. The report recommends that consideration be given to requiring that the cost of financing Federal power programs be based on prevailing market yields on Government obligations used to obtain funds to construct power facilities, and that the specific types of obligations and methods to be used in determining the interest rate to be used each fiscal year in compliance with this requirement should be left to the discretion of the Secretary of the Treasury.

As a matter of long-standing policy, and the proposed report quotes a 1960 Treasury letter on this point, the Department has recommended the use of current market yields on outstanding Government obligations of comparable maturity as the best measure of the cost to the Government of financing an activity The essence of the argument is that, while the Treasury does not enter the market to borrow a specific amount for a specific period in order to finance an investment of an equal amount for the same period, it is compelled to have a comparably greater amount of debt outstanding over the period, and the most appropriate measure of the alternative cost involved is the current market cost of borrowing for comparable maturities. This "market yield" formula was incorporated in Bureau of the Budget Circular No. A-70, February 1, 1965, which prescribes interest rate formulas for use in legislative proposals to create or expand Government loan programs. The market yield formula is also the basis for the interest rate formula, referred to in the proposed report, adopted by the Water Resources Council on December 24, 1968 for use in project evaluation

The market yield formula provides a current measure of the minimum cost of money in the economy, since Treasury borrowing rates are lower than private rates, and thus serves as a measure of the minimum opportunity cost of public or private investments We would draw your attention, in this regard, to the Hearings held by the Joint Economic Committee in 1967 and 1968

[See GAO note]

As a practical matter there is very little difference between the average of coupon rates on Treasury obligations and the average of the effective rates paid by Treasury on these obligations Because the coupon or nominal rates on Treasury securities are expressed in multiples of one-eighth of one percent, these securities are often issued by the Treasury at slight premiums or discounts in order to price the issue more precisely in the market. Thus the effective rate or yield on a new Treasury issue may differ somewhat from the stated coupon, but generally by an amount considerably less than one-eighth of one percent. For example, on January 29, 1969 the Treasury offered a 15-month note with a coupon of 6-3/8 percent at a price of 99 95 which produced an effective rate paid by Treasury (or yield to the investor) of 6 42 percent, and a 7-year note with a coupon of 6-1/4 percent at a price of 99 75 to yield 6 29 percent

Such differences between coupon rates and the effective rates paid by Treasury are insignificant compared to the difference between the 3 25 percent rate now in use for many Federal power projects and the rates in excess of 6 percent now paid by the Treasury on new issues In fact, the 3 25 percent rate was computed on the basis of effective rates, rather than coupon rates, in accordance with the formula in Senate Document No 97 which prescribes the use of "the average rate of interest payable" on Treasury obligations.

The discrepancy between the rate based on the formula in Senate Document No 97 and Treasury's current borrowing costs is due almost entirely to the fact, which is discussed in the draft report, that the formula requires the averaging of rates paid by Treasury on obligations which were issued years ago when market rates were much lower than they are today.

GAO note Deleted comments relate to matters which were presented in the draft report but which have been revised in the final report

The report does not distinguish between effective rates paid by Treasury and market yields on outstanding Treasury obligations. For example, as of January 31, 1969, the effective rate paid by Treasury on all outstanding marketable obligations was 4 988 percent, but the average of market yields on those obligations was 6 189 percent, and, as indicated above, the Treasury was required to pay rates in excess of 6-1/4 percent on its new note issues offered on January 29 The new issue rate, which is what Treasury actually pays, is generally slightly higher than market yields on comparable maturities, which are the rates at which Treasury securities are bought and sold by private investors in the market.

While we have not attempted to revise your draft to reflect the considerations discussed above, our staff has made a number of corrections and technical suggestions on the attached copy If you have any questions please contact Mr. Edward P Snyder, Director of the Office of Debt Analysis, Code 184, Extension 2026

As you requested, we are returning all three copies of your draft report

Sincerely yours,

Paul A. Volcker

Mr. Max A Neuwirth
Associate Director
Civil Division
United States General
Accounting Office
Washington, D C. 20548

Enclosures 3

DEPARTMENT OF THE ARMY
WASHINGTON D C 20310

1 APR 1969

Mr. Allen R. Voss
Assistant Director
United States General Accounting Office
Washington, D. C. 20548

Dear Mr. Voss

The Secretary of Defense and Secretary of the Army have asked that I reply to your letter, dated 21 January 1969, forwarding copies of a draft report to the Congress pertaining to interest rate criteria for determining financing costs of the Federal power program (OSD 2888)

As your proposed report points out, the interest rates used by the Corps of Engineers in project evaluations have been in accordance with coupon formulas prescribed by administrative and legislative authority The power generated at Corps of Engineers projects is marketed by marketing agencies of the Department of the Interior. These agencies have consistently used the same rates in their repayment analysis as used by the Corps of Engineers in project evaluations The report also notes that on several occasions pertaining to repayment of reimbursable functions the Congress has chosen to retain the coupon interest formula in preference to a yield formula

The proposed report notes that coupon and yield rates on long term Federal borrowing are no longer approximately the same and suggests that the Congress should consider requiring the use of yield rates in determining power repayment requirements While I am not familiar with the administrative policies and specific laws applying to other agencies, the Corps will use the new rate prescribed by the Water Resources Council in calculating power costs. This will be similar to the formula suggested in the draft report.

There appears to be one significant difference, however, in determining interest rates for projects with long construction periods such as the John Day and The Dalles projects. As I understand the formula in your report, you consider it more appropriate to use a rate representing an average yield rate over the period of time these projects are under construction. The Corps of Engineers, however, uses the yield rate which was used in the presentations to Congress for initial appropriation of construction funds. This procedure has been followed in the past throughout the Corps of Engineers program and has been tacitly

Mr. Allen R. Voss

accepted by the Congress The procedure is considered proper since it represents conditions at the time commitments must be made It would be difficult to make agreements for power purchases on an undetermined future cost based on the average yield rate during the construction period.

The opportunity to review the draft report is appreciated. It is requested that 10 copies of the report as finally prepared be furnished the Office, Chief of Engineers

Sincerely yours,

Robert E. Jordan, III
Special Assistant (Civil Functions)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON D C 20240

SEP 11 1969

Mr Allen R Voss
Associate Director, Civil Division
General Accounting Office
Washington, D C 20548

Dear Mr Voss

The Department has reviewed the draft report titled "Need for Change in Interest Rate Criteria for Determining Financing Costs of Federal Power Program, Department of the Army, Department of the Interior "

The proposed report recognizes that the interest rates applied in the repayment of the Federal power program have conformed to applicable laws Hence, the recommendation is presented as a matter for consideration of Congress rather than as a recommendation to the Executive Departments responsible for conducting the Federal power program

The conclusion of the report is that the interest costs of the Federal power program have been understated in recent years due to use of specific rates set in legislation or the coupon rate We cannot agree with that premise because the interest policy has been established in the context of other considerations, and we believe that, to the extent intended by Congress, total program costs are recovered

We agree that the criteria used to measure interest cost currently are not comparable to the costs being incurred by the Treasury for like obligations because Treasury suspended the practice of issuing long term bonds in 1963

Your recommendation is essentially that, in the future, amounts larger than those dictated by present criteria should be recovered as interest on investments in Federal power projects We do not believe that the power program should be singled out as the only program to which this criteria should apply Other programs of the Government, i e , the Rural Electrification Program, utilize rates prescribed by the Congress which are much less than those that you propose We believe that any recommendation that is made for the consideration of the Congress should consider all

Government activities that utilize Treasury funds Further, it must be pointed out that the power program in most instances returns not only interest but additional amounts representing assistance to irrigation Such being the case, any efforts to establish new criteria relating to power program interest rates could require simultaneous changes in interrelated policies, including assistance to irrigation

[See GAO note]

We appreciate the opportunity to review the draft report If there is further information concerning any of our comments, please let us know

Sincerely yours,

J. J. Hall Jr.

Director of Survey and Review

GAO note Deleted comments relate to matters which were presented in the draft report but which have been revised in the final report

PRINCIPAL MANAGEMENT OFFICIALS OF THE DEPARTMENT OF THE INTERIOR AND THE DEPARTMENT OF THE ARMY CALENDAR YEAR 1969

	Effective date of appointment
DEPARTMENT OF THE INTERIOR	
SECRETARY OF THE INTERIOR	
Walter J Hickel	Jan 1969
Steward L Udall	Jan 1961
ASSISTANT SECRETARY--WATER AND POWER DEVELOPMENT	
James R Smith	Mar 1969
Kenneth Holum	Jan 1961
COMMISSIONER OF RECLAMATION	
Ellis R. Armstrong	Nov. 1969
Floyd E. Dominy	May 1959
ADMINISTRATOR, BONNEVILLE POWER ADMINISTRATION	
Henry R. Richmond	Sept 1967
DEPARTMENT OF THE ARMY	
SECRETARY OF THE ARMY	
Stanley R Resor	July 1965
CHIEF OF ENGINEERS	
Lt Gen Frederick J. Clarke	Aug. 1969
Lt Gen William F Cassidy	July 1965

U S GAO Wash , D C