

~~13764~~
112329

REPORT BY THE U.S.

General Accounting Office

Contracts To Provide Space In Federal Reservoirs For Future Water Supplies Should Be More Flexible

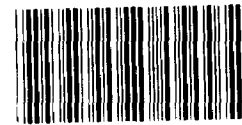
Before building future water storage space in reservoirs, the Corps of Engineers and Interior's Water and Power Resources Service must be reasonably sure that the water supplies are needed for municipal and industrial use and that the user will repay the Federal Government.

However, the Corps of Engineers provides future storage space with little assurance of community water use and repayment ability. The Water and Power Resources Service insists on community repayment even if anticipated future use never develops.

GAO recommends that both agencies adopt more flexible, option-type contracts.



010400



112329

CED-80-78

MAY 16, 1980

Single copies of GAO reports are available free of charge. Requests (except by Members of Congress) for additional quantities should be accompanied by payment of \$1.00 per copy. (Do not send cash).

Requests for free single copies should be sent to:

U.S. General Accounting Office
Distribution Section, Room 1518
441 G Street, NW
Washington, DC 20548

Requests for multiple copies should be sent with checks or money orders to

U.S. General Accounting Office
Distribution Section
P.O. Box 1020
Washington, DC 20013

Checks or money orders should be made payable to the U.S. General Accounting Office.

To expedite placing your order, call (202) 275-6241.
When ordering by phone or mail, use the report number and date in the lower right corner of the front cover.

GAO reports are now available on microfiche. If such copies will meet your needs, be sure to specify that you want microfiche copies.



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION
B-157984

The Secretary of the Army *AGC00000*
The Secretary of the Interior *AGC00033*

This report discusses Federal contracting procedures for municipal water supply storage at Federal reservoirs and the need to include cost estimates for transporting such water to the user's treatment facilities. It suggests ways to improve current contracting procedures and allow the Federal Government to market unneeded water to other users.

We made this review as part of our ongoing effort to contribute toward a better understanding and timely consideration of ways to solve the key water problems facing the Nation.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, House and Senate Committees on Appropriations; House Committees on Government Operations, Interior and Insular Affairs, and Public Works and Transportation; Senate Committees on Governmental Affairs and Environment and Public Works; the Chief of Engineers, Army Corps of Engineers; the Assistant Secretary, Land and Water Resources, and the Water and Power Resources Service, Department of the Interior.

Henry Eschwege

Henry Eschwege
Director

*AGC00305
DLG00415*



D I G E S T

The Army Corps of Engineers and the Department of the Interior's Water and Power Resources Service spend millions of dollars to include space in reservoirs for future municipal and industrial water supplies. The Water Supply Act of 1958 authorizes such expenditures, provided these agencies obtain reasonable assurance that the water supplies will be needed and users will repay the Federal costs within the life of the project. (See p. 1.)

The Corps of Engineers is constructing water storage space with little assurance of community needs or repayment ability. Generally, it relies on nonbinding written "assurances" and contracts which do not require potential users to repay any of the building costs until they start using water supplies; if they never use the water, the Federal Government may not be repaid its investment. At times, the Corps relies on assurances from State agencies although neither the State nor the Corps identifies specific communities that plan to use the water. (See pp. 4 to 6.)

The reliability of assurances is questionable because the Corps does not present the entire financial picture to the potential user. The Corps, unlike the Resources Service, does not usually build conveyance facilities (aqueducts, pipelines, pumping stations) to transport water to the user, nor does it include estimates of conveyance costs in its design memorandums. Conveyance facilities can cost more than the Corps' initial construction of storage for future water supplies. For example, at the time this study was made, estimated construction costs for facilities to convey water from Kaw Lake in northern Oklahoma to neighboring communities were \$67 million, or \$28 million more than Corps costs for including water supplies in the reservoir. (See pp. 11 and 12.)

The Resources Service requires potential water users to repay Federal costs for including water storage space even if they never use the water. This requirement exceeds the intent of the Water Supply Act of 1958. GAO concludes that such repayments could cause undue hardships on local communities if they fail to experience the growth anticipated when they signed the contracts. (See p. 6.)

Both Corps and Resources Service contracts give potential users permanent and exclusive rights to the storage space. Thus, communities which have not contracted with the Government can be excluded from using the storage space even if they have an earlier or more pressing need. (See p. 2.)

At several Resources Service reservoirs in the Upper Missouri Region, option-type contracts are used. Potential users pay fees to reserve rights for water delivery but can terminate the contracts if they reduce their estimates of future water needs. The Resources Service can also terminate the contracts if it receives bona fide offers from other parties with earlier needs. In these cases, original users must start paying for the water if they want to retain their delivery rights. GAO believes this concept should be adopted for selling future storage space because it would strengthen assurances received by the Corps and be less stringent than the Resources Service's current contracts. (See pp. 8 and 9.)

RECOMMENDATIONS

GAO recommends that the Army's Corps of Engineers and the Interior Department's Water and Power Resources Service adopt option contracts which:

- Charge for the option to purchase water storage rights.
- Allow the agencies to cancel contracts if a bona fide water user, which has obtained

or will obtain the rights to the water, requests the water before the option holder has started using it and the option holder elects not to initiate immediate repayment.

--Allow the option holder to terminate all or part of the contract if its water needs do not materialize as estimated. (See p. 9.)

GAO recommends also that Corps' design memorandums include estimated costs of conveyance facilities and information on whether the users can pay for them. (See p. 13.)

AGENCY COMMENTS AND GAO EVALUATION

The Corps officials agreed with GAO's conclusions and recommendations. The Resources Service acknowledged that its repayment policy exceeds the intent of the Water Supply Act of 1958. However, it believes contract requirements are in the best interest of the Federal Government because they assure repayment.

GAO agrees that the Resources Service's policy provides better protection of the Government's interest than the option-type contract, but GAO still believes the requirement goes beyond the intent of the Water Supply Act of 1958. If the Resources Service wishes to continue the policy, it should seek a change to the Water Supply Act of 1958 or insist that the authorizing legislation for each reservoir require repayment contracts for future storage.

C o n t e n t s

		<u>Page</u>
DIGEST		i
CHAPTER		
1	INTRODUCTION	1
	Requirements of the Water Supply Act of 1958	1
	Agencies implement the act differently	2
	Scope of review	2
2	AGENCIES' CONTRACTING POLICIES AND PROCEDURES NEED TO BE CHANGED	4
	Corps procedures provide little assurance of repayment	4
	Assurances	4
	Contracts	5
	Delayed payment decreases possibility of repayment	6
	Resources Service contracts are contrary to intent of the Congress	6
	Resources Service's option contracts provide flexibility	8
	Conclusions	9
	Recommendations	9
	Agency comments and GAO evaluation	10
3	THE CORPS SHOULD DETERMINE COSTS OF CONVEYING WATER TO USERS	11
	Building conveyance facilities can be expensive	11
	Potential users need conveyance cost estimates	12
	Conclusions	13
	Recommendation	13
	Agency comments	13



CHAPTER 1

INTRODUCTION

The Water Supply Act of 1958, Public Law 85-500, authorized Army's Corps of Engineers and Interior's Water and Power Resources Service 1/ to provide space in Federal reservoirs for storing water to meet present and estimated future municipal and industrial water needs. Both agencies construct multiple-purpose reservoirs that serve needs such as flood control, irrigation, power, recreation, and water supply. As of July 1979, the Corps had invested \$222 million and the Resources Service \$15 million to provide water storage in completed reservoirs. The Corps estimates that water storage in reservoirs in the planning stages or being constructed will cost an additional \$738 million. The Resources Service estimates their costs at \$127 million.

REQUIREMENTS OF THE WATER SUPPLY ACT OF 1958

The Water Supply Act of 1958, as amended, states that when constructing Federal reservoirs, the Corps and the Resources Service may:

- Include storage space for future municipal and industrial water supply needs of local communities and States.
- Determine that there is reasonable evidence, and require States or local communities to give reasonable assurance, that the water will be used within a period of time which allows users to pay the costs allocated to water supply during the life of the reservoir.
- Require the user to repay the Federal Government for future water supply beginning when the water is delivered to the user. Repayment must be completed within 50 years of that time, unless the remaining life of the reservoir is shorter. In that case, construction costs will be repaid by the end of the reservoir's useful life.

1/Formerly known as the Bureau of Reclamation.

--Include in the repayment the water supply construction costs, interest during construction, and interest on the amount not repaid beginning no later than 10 years after construction.

AGENCIES IMPLEMENT
THE ACT DIFFERENTLY

The Corps and Resources Service implement the 1958 act differently. In determining future water needs for local communities, the Resources Service allocates storage space to specific potential users and, before starting construction, usually requires them to contract for repayment of the Federal costs, including water conveyance. The contracts give the users the right to use the storage space as long as they meet contract obligations.

In contrast, the Corps usually estimates future water needs without allocating storage to specific potential users or requiring them to contract to repay Federal costs. Instead, the Corps usually relies on "assurances" obtained from potential users or a State. Assurances are written statements from potential users agreeing with the Corps' projection of future water demands. They also agree that local plans for future water needs will be directed toward using the reservoir water supply and Federal repayment will occur under "suitable" arrangements. Neither party, however, is bound by these assurances.

The Corps of Engineers, on occasion, does enter into contracts with potential users. This occurs if the users desire contracts, if the users need reservoir water supplies as soon as they are available, or if the estimated cost of water supply storage exceeds 30 percent of the reservoir's total estimated cost. Under these contracts, potential users have rights to use the storage space as long as they meet contract obligations.

SCOPE OF REVIEW

We evaluated the Corps' and Resources Service's policies and procedures for including water storage space in reservoirs for anticipated future municipal and industrial needs. We reviewed agency records and interviewed officials at the St. Louis, Kansas City, and Tulsa Districts of the Army Corps of Engineers; and the Southwest, Upper Missouri, and Lower Missouri Regions of the Water and Power Resources Service.

The Tulsa District was selected because it has the most reservoirs. The other two Corps districts were selected because they are in different Corps divisions, thereby giving us wider coverage of Corps contracting policies and procedures. We selected the three Water and Power Resources Service regions because they enter into different types of contracts, thereby giving us greater coverage of Resources Service contracting policies and procedures.

We contacted officials at Corps and Resources Service headquarters in Washington, D.C., to obtain general information on agency policies regarding repaying reimbursable costs, contracting procedures for present and future municipal and industrial water needs, and planning for conveyance facilities. We also contacted officials from the Oklahoma and Kansas Water Resources Boards to discuss the potential impact written contracts for future water supplies would have on their operations if the Corps required such contracts. Finally, we obtained comments from representatives of three reservoir authorities in Oklahoma regarding their plans to construct conveyance facilities and/or use reservoir water.

CHAPTER 2

AGENCIES' CONTRACTING POLICIES

AND PROCEDURES NEED TO BE CHANGED

Although the assurances and contracts the Corps obtains are within the intent of the Water Supply Act of 1958, they do not insure that potential users will repay the Federal Government's costs for including storage space in reservoirs for future water supplies. Corps contracts give potential users permanent rights to the storage space and do not contain provisions under which the Government can sell storage space rights to others with earlier or more pressing needs. Neither the contracts nor the assurances require any repayment if the water is never used. Resources Service contracts also give potential users permanent rights to storage space; however, they exceed the intent of the act by requiring users to repay the Federal Government even if the water is never used. Payments under these circumstances could be an undue hardship on local communities.

The Resources Service has used option-type contracts when selling water. This type of contract could be used when selling rights to storage space for future water supplies. Option-type contracts would also provide more flexibility to both parties and more security to the Federal Government than assurances.

CORPS PROCEDURES PROVIDE LITTLE ASSURANCE OF REPAYMENT

Assurances

The Corps determines potential users' future water supply needs either by making independent estimates or by obtaining estimates from State governments or the potential users. The Corps bases its estimates on projected population and industry growth, present and future water consumption, present and potential water sources, and drainage capacity of the proposed reservoir site.

Once estimated needs have been determined, the Corps obtains a written assurance that (1) the estimates are in accordance with local estimates, (2) plans for future water supplies will be directed toward using the reservoir, and (3) the Federal investment will be repaid under "suitable" arrangements. If local jurisdictions do not sign these documents, the Corps obtains assurances from State agencies. We found several instances where State agencies had signed

assurances to use the maximum storage capacity even though neither the State nor the Corps had identified specific potential users.

Because assurances are not binding on either party, they do not insure that the water will be used and the Federal cost repaid. It appears likely that the Federal Government will have to absorb the cost of including water storage capacity for future use in several completed reservoirs. Every few years the Corps asks potential users for reassurances that the water will be needed. We found no project where the potential user had withdrawn its assurance, but several users were reevaluating their needs. For example, the State of Missouri is deciding whether to renew its assurances for the Clarence Cannon and Long Branch Reservoirs in Missouri. The Cannon Reservoir project is scheduled for completion in 1982. The cost to build the reservoir includes about \$10.2 million for water storage. Cost estimates for the Long Branch Reservoir project, scheduled for completion in 1981, include about \$4.6 million for water storage. The Division of Geology and Land Survey, Missouri Department of Natural Resources, made preliminary studies of water needs in the communities surrounding the above projects. The studies concluded that alternative water sources are available to meet present and anticipated future water needs; therefore, water from Cannon and Long Branch reservoirs may not be needed. The State agency recommended that the State of Missouri not renew its assurances with the Corps. The State had not made a decision as of January 30, 1980.

Contracts

Corps contracts also do not insure repayment of the Federal investment incurred for adding the storage space in reservoirs. Under these contracts, the user starts repaying Federal costs when it starts using the water, which is in accordance with the Water Supply Act of 1958. These contracts, however, do not establish a date when the user must either begin payment or forfeit the rights to the storage. Although the user has 50 years or less to repay the investment once repayment starts, if it does not use the water before the end of the reservoir's life, Federal cost may never be repaid. The contracts do not define the end of the reservoir's useful life. Corps officials defined the reservoir's life as the economic life (in some cases 100 years) or the physical life during which the reservoir is expected to operate without substantial impairment by sedimentation or by excessive physical deterioration of the engineering works (which could also be 100 years).

Corps officials said that users can request release from contracts if their needs change. In fact, the Corps has released several users from contracts and has negotiated new contracts with others for some of this future storage.

DELAYED PAYMENT DECREASES
POSSIBILITY OF REPAYMENT

The longer contracts are in force without actual use of the water, the more difficult it will be to obtain repayment. This is because compound interest increases the amount to be repaid and the expiring life of the reservoirs shortens the repayment period.

The Clarence Cannon Reservoir in Missouri illustrates how compound interest increases the repayment amount. As noted on page 5, there is little chance that water from this reservoir will be used in the near future. Allocated construction costs, estimated at about \$10.2 million, will be increased by compound interest at 3.225 percent a year. If water from the reservoir is not used for 20 years, the amount to be repaid will increase to \$14 million. A 50-year delay will increase the amount to \$36.3 million.

RESOURCES SERVICE CONTRACTS ARE
CONTRARY TO INTENT OF THE CONGRESS

The Resources Service requires firmer commitments from potential users than the Congress intended. The meaning of the reasonable assurance clause of the 1958 act may be debatable, but subsequent legislation clearly intends to prevent water agencies from requiring firm contracts.

A 1961 amendment to the act (Sec. 10, Public Law No. 87-88) deleted the word "contract" from the description of what assurances non-Federal interests must provide. The original language was changed from

"* * *where States or local interests give reasonable assurances that they will contract for the use of storage for anticipated future demands * * *." 1/

to read:

"* * *where State or local interests give reasonable assurances, and there is reasonable evidence,

1/Water Supply Act, § 301(b), 72 Stat. 319.

that such demands for the use of such storage will be made within a period of time which will permit paying out the costs allocated to water supply within the life of the project * * *." 1/

The Senate report on the amendment expressly stated an intention to reduce existing restrictions on non-Federal interests. The conference report also stated that the amendment was to permit the Resources Service and the Corps to make their own determinations of future needs "without definite contractual commitments from State or local interests."

In 1971 section 221 of the Flood Control Act of 1970 also was amended to preclude the interpretation that local or State users must have binding contracts for future water demands.

Despite these measures to prevent firm commitment requirements, the Resources Service requires repayment contracts because, according to officials, contracts are the best way to insure repayment. Also, officials said that the authorizing legislation on some reservoirs requires repayment contracts to be entered into before project construction. Such requirements, when not specifically required in authorizing legislation, are beyond the intent of the Water Supply Act of 1958.

RESOURCES SERVICE'S OPTION CONTRACTS PROVIDE FLEXIBILITY

The Resources Service's Upper Missouri Region uses option-type contracts to deliver water for future use. Using this same concept to sell storage space for future water supplies would eliminate placing undue hardships on local communities and would still allow the Federal Government to recoup its investment. This type of contract also would meet the requirements of the Water Supply Act of 1958, as amended.

The Resources Service has used these option contracts at reservoirs where area water needs changed after the project was authorized. Under option contracts the:

1/43 U.S.C. § 390b (1976).

- Potential user agrees to pay a fee to reserve water delivery for future needs. The fee is paid until the user starts using the water at which time repayment begins.
- Federal Government can cancel the contract if it receives a bona fide offer from another party with an earlier need; however, the option holder has an opportunity to start paying for all or part of the water and/or release its rights.
- Contracts are for a specified period. The holder can terminate the entire obligation or a portion of the obligation if its needs change. For example, the holder can request a reduction of water to be made available if water needs were overestimated. (In some contracts this can be done any time, while in others it can only be done at specified periods.)

CONCLUSIONS

We believe the interests of both the Federal Government and potential water users should be fully protected when Federal reservoirs include future water supply storage. The Federal Government should build these reservoirs secure in the knowledge that its costs will be repaid, and potential water users should be given an alternative to paying for water they do not use as a result of changing or unrealized needs. We believe the current Corps and Resources Service procedures do not adequately protect these interests. The contracts and assurances the Corps obtains are within the intent of the Water Supply Act of 1958; however, they give little assurance that Federal expenditures will be repaid. The Resources Service contracts, on the other hand, go beyond the intent of the law. They make potential users responsible for repayment even if their estimated needs are overstated and they never use the water. Repayment under these circumstances could be an undue hardship on local communities. Finally, in either agency, water is committed to a user who may never use it and is not available to others who may need additional water at a later date.

The Resources Service's option contracts appear to provide greater probability that the Federal Government will recover its costs than the Corps' contracts and assurances.

Option contracts also protect potential users by allowing them to (1) pay a fee to reserve rights to future water storage and (2) reassess their needs and subsequently revise or cancel the contract.

RECOMMENDATIONS

We recommend that the Secretary of the Army direct the Corps of Engineers and that the Secretary of the Interior direct the Water and Power Resources Service to develop and implement option contracts for potential future water users which:

- Charge for the option to purchase future water storage rights.
- Allow a contract to be canceled if a bona fide water user, which has obtained or will obtain the rights to the water, requests the storage before the option holder has started using it and the option holder elects not to begin repayment.
- Allow an option holder to terminate all or part of the agreement if its water needs do not materialize as estimated.

These option contracts should be entered into before reservoir construction.

AGENCY COMMENTS AND GAO EVALUATION

Corps officials agreed with our recommendations. Resources Service officials agreed that their repayment policy exceeds the intent of the Water Supply Act of 1958. They also repeated that authorizing legislation for some reservoirs has required repayment contracts to be entered into before construction of the reservoir. They continue to believe that their current policy is in the best interest of the Government because it assures repayment of the Federal investment.

We agree that current Resources Service contracts provide better protection of the Government interest than option-type contracts, but we still believe such requirements exceed the intent of the Water Supply Act of 1958. If the Resources Service wants to continue its policy, it

should seek a change in the Water Supply Act of 1958 or insist that authorizing legislation for all new reservoirs which include storage for future municipal and industrial needs require repayment contracts.

CHAPTER 3

THE CORPS SHOULD DETERMINE COSTS

OF CONVEYING WATER TO USERS

Potential users are signing Corps contracts and assurances covering future water use without knowing whether they can afford to construct conveyance facilities. (The Corps, unlike the Resources Service, does not provide facilities for conveying water from storage projects to users.) These facilities can cost millions of dollars, but the Corps usually does not include cost estimates for conveyance construction in its design memorandums. The Corps has provided estimates in some instances, but, according to Corps officials, it does not usually prepare estimates because users are responsible for design and construction costs when they need to start using the water, which occurs after reservoir construction.

BUILDING CONVEYANCE FACILITIES CAN BE EXPENSIVE

The cost of conveyance facilities is sometimes more than the cost of water supply storage. For example, the Kaw Reservoir Authority, a water district formed in 1973 to distribute water from Kaw Lake in northern Oklahoma, estimates that conveyance facilities to several communities would cost about \$67 million--\$28 million more than the reservoir storage cost. The following table compares water supply and conveyance costs for reservoirs in the Resources Service Southwest Region. Some users are seeking grants and loans from other Government agencies to finance conveyance facilities which they are otherwise unable to afford.

<u>Project</u>	<u>Costs</u>	
	<u>Water Supply</u>	<u>Conveyances</u>
	(millions)	
Mountain Park, Oklahoma	\$10	\$25
Canadian River, Texas	32	51
Arbuckle, Oklahoma	5	2
Norman, Oklahoma	6	5

POTENTIAL USERS NEED
CONVEYANCE COST ESTIMATES

In 1964 and 1965 Ponca City, Oklahoma, and the State of Oklahoma provided assurances to the Corps that they would need water from Kaw Lake. Oklahoma officials told us, however, that they signed the assurance without identifying the water user or determining conveyance costs. We identified three potential users which have determined, or are in the process of determining, that they could not or may not be able to finance the construction of such facilities. These users applied for grants and loans from other Federal agencies to pay for feasibility studies and, in one case, for the conveyance facilities.

In 1976 the Kaw River Authority, composed of several communities in the general area, obtained Federal grants for \$20,000 and \$10,000 from the Ozark Regional Commission and the Economic Development Administration, respectively, to determine the feasibility of constructing a regional distribution system and, if feasible, to design the system. The study showed costs estimated for the system would be a great burden to the communities.

The authority has tried several avenues to obtain a conveyance system. In 1978 and 1979 the Congress considered legislation to allow the Corps to build a treatment facility and regional conveyance system at a cost of \$82 million. The legislation was not approved. Then in May 1979, the authority requested \$14 million in Federal grants and loans to construct the treatment facility and 8 miles of pipeline to transport the water from the reservoir to the treatment facility. The request included a \$7 million grant from the Economic Development Administration, a \$3.5 million grant from the Ozark Regional Commission, and a \$3.5 million loan from the Farmers Home Administration. However, these grants and loans were not approved.

CONCLUSIONS

We believe that potential users' ability to pay for conveyance facilities is an important factor in deciding whether to construct reservoir space for municipal water. Estimating conveyance costs before reservoir construction would benefit the user and the Corps. Potential users could provide more credible assurances of their ability to pay for water storage and would also be able to plan the financing of conveyance construction. With cost information, Corps estimates on the usefulness of constructing storage space also would be more credible. For reservoirs where

the specific users are unknown, the Corps should determine the most likely water users and determine their ability to pay for the water storage and conveyance facility construction. Including this information in design memorandums would provide the Congress with a basis for determining whether to approve reservoirs for municipal and industrial water supply.

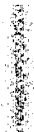
RECOMMENDATION

We recommend that the Secretary of the Army direct the Corps of Engineers to include in its design memorandums for reservoirs which include storage for future municipal and industrial water needs the estimated costs of conveyance facilities and information on whether the users can pay for the construction of these facilities.

AGENCY COMMENTS

Corps officials agreed with our conclusions and recommendation.

(080450)



10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

AN EQUAL OPPORTUNITY EMPLOYER

**UNITED STATES
GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548**

**OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300**

**POSTAGE AND FEES PAID
U. S. GENERAL ACCOUNTING OFFICE**



THIRD CLASS