



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

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March 16, 1984

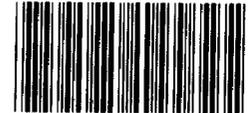
RESOURCES, COMMUNITY,  
AND ECONOMIC DEVELOPMENT  
DIVISION

B-214593

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The Honorable George Miller  
House of Representatives

RELEASED



123687

Dear Mr. Miller:

Subject: Information On Repayment of the Bureau  
of Reclamation's Central Valley Project  
(GAO/RCED-84-122)

In your letter of October 27, 1983, and during subsequent discussions with your office, you expressed concern that some water districts served by the Bureau of Reclamation's Central Valley Project (CVP) in California were paying substantially less than current operation and maintenance (O&M) expenses for their irrigation water and less than their proportionate share of the capital costs to construct CVP facilities. For illustrative purposes, you selected three irrigation districts--Arvin-Edison (in the Friant Kern Service Area) and Panoche and San Luis (both in the Delta-Mendota and San Luis Service Areas)--and requested that we provide you with information on

- the districts' current contractual obligations regarding repayment of capital costs and O&M expenses (see page 4),
- the districts' ability to pay for project water (see page 4),
- the districts' actual repayments and whether they are at least equal to current O&M expenses (see page 5),
- the additional costs borne by the federal government when irrigation costs applicable to these districts remain unpaid or are deferred (see page 6), and
- the Bureau's policy on the recovery of unpaid or deferred irrigation costs (see page 8).

In addition, you asked us to explore several legal questions relating to the above information. These are being pursued by our Office of the General Counsel and will be reported to you in a separate letter.

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## OBJECTIVE, SCOPE, AND METHODOLOGY

The overall objective of this review was to provide information on the irrigation repayment history of three selected CVP districts--Arvin-Edison, Panoche, and San Luis. We obtained applicable contract information concerning the terms and conditions under which CVP irrigation water was delivered to each district. We determined how district revenues were applied toward repayment and whether capital or O&M deficits existed for any of the three districts. We also obtained limited information on CVP-wide operations, such as whether the CVP had historically recovered at least all O&M expenses, the total number of districts having contracts for irrigation water, the number of districts currently in an O&M deficit position, and the Bureau's plans for revising the CVP water marketing policy.

Although recognizing that the three selected districts have long-term, fixed-rate contracts, we did compare and project what each district's repayment obligation (both capital and O&M) would be if it were liable to pay rates developed using the concepts in the Bureau's current interim<sup>1</sup> water marketing policy rather than the existing contract rates. We also projected, based on Treasury borrowing rates, the interest costs borne by the federal government from not realizing this increased repayment.

We made our review at the Department of the Interior's Bureau of Reclamation headquarters in Washington, D.C., and its Mid-Pacific Region in Sacramento, California. The field work was carried out in November and December of 1983. Information presented in this report on the historical CVP irrigation repayment, including the three selected districts, was developed by the Bureau's Mid-Pacific Region as part of its ongoing analysis of policy options to revise its CVP water marketing policy. Since these results are still preliminary and subject to change and the figures presented in this report are only for illustrative purposes, we did not verify the methodology employed by the Region.

As you requested, we did not obtain official agency comments. Otherwise, our review was performed in accordance with generally accepted government audit standards.

## BACKGROUND

The U.S. Department of the Interior's Bureau of Reclamation builds and operates water projects in the 17 western states.

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<sup>1</sup>The policy, used since 1981, is considered interim because it has not yet been approved by the Secretary of the Interior.

Through such projects the Bureau provides water for irrigation and municipal and industrial uses, hydroelectric power generation and other benefits. Generally, reclamation law requires that federal expenditures for project purposes such as power production, irrigation, or municipal and industrial water supplies must be repaid by the beneficiaries within 50 years. For the irrigation function of projects two types of costs are reimbursable, project construction costs (not including interest) and annual O&M expenses.

The CVP is classified as a single project although it includes numerous dams, reservoirs, and pumping stations, hundreds of miles of canals and aqueducts, and several power plants. It was designed to be constructed in increments or units over long periods of time and to be operationally integrated. The first unit became operational in 1948. Because of this situation the Bureau provides for repayment by selling water by the acre-foot<sup>2</sup> through water service contracts, much the same way a utility would charge for water service. The price per acre foot should cover both construction and O&M repayment. In contrast, under the traditional repayment plan the Bureau and a water user entity contract for repayment of construction costs in predetermined semi-annual or annual installments and of O&M costs through periodic billing based on actual expenses.

#### CVP water service rates and contracts

Over the life of the CVP, the Bureau has established water service contract rates under several different water marketing strategies. The initial rates for irrigation water ranged from \$2.00 an acre-foot for water delivered in the Sacramento Valley, which is near the source of supply, to \$3.50 an acre-foot for water delivered to the San Joaquin Valley, which is farthest from the source. Under the Bureau's current interim water marketing policy for the CVP, irrigation water rates vary from \$3.50 to \$17.00 an acre-foot depending on the project services required to deliver the water. Because many of the initial water contracts were long-term with fixed rates, the interim rates cannot be charged to many water users until the mid-1990s at the earliest when their contracts expire or are subject to renegotiation.

Under the interim policy, the Bureau separates the capital and O&M costs allocated to irrigation into four cost categories-- storage, conveyance, pumping and water marketing--and develops rates for each. Rates for the capital costs are based on projected 50-year water deliveries while those for O&M are based on projected 5-year deliveries. The rate each user pays depends on

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<sup>2</sup>An acre foot is the amount of water (about 325,900 gallons) sufficient to cover one acre of land with one foot of water.

the services used. For example, users who do not require pumping do not pay the same rate as those who do. The rates are increased periodically to cover additional costs.

In theory, if (1) projected water deliveries over the succeeding 50-year period did occur and (2) projected O&M costs over each succeeding 5-year interval did occur, then the capital and O&M components of the interim water marketing policy rate would be sufficient to recover both the capital and O&M costs within 50 years as they are designed to do (assuming the O&M rate is adjusted every 5 years). However, long-term, fixed-rate contracts preclude this situation because current rates cannot be charged to existing water user entities until their water service contracts expire or can be adjusted.

Prior to 1974, water rates included in water service contracts could not be adjusted until the contracts expired. During the period 1974-1978, recognizing that the rates in many of the older contracts were insufficient to recover current project costs, especially O&M, the Bureau began to include limited O&M rate adjustment clauses in some of its contracts. In 1979, the Bureau started writing 5-year rate adjustment clauses for both capital and O&M into its new water service contracts.

#### DISTRICTS' CURRENT CONTRACTUAL OBLIGATIONS

Each of the three selected water districts has a long-term, fixed-rate contract. For example, Panoche's current contract was executed on August 30, 1974, and does not expire until December 31, 2008--over 34 years later. The contract provides for annual minimum water deliveries of 80,000 acre feet at a cost of \$8.00 an acre foot if taken from the San Luis Unit and \$3.50 an acre-foot if taken from the Delta-Mendota Canal. During the life of this contract, only the \$3.50 rate is subject to renegotiation and even in this case can only be adjusted in 1996 and every fifth year thereafter. A broad description of this contract and those for the Arvin-Edison and San Luis districts is included as an enclosure to this report.

#### ABILITY TO PAY

The financial obligations of irrigation beneficiaries can be limited to their ability to pay for the water. For a given geographical area, ability to pay is measured in terms of farm income available to meet annual costs of water after all crop production, overhead, and family living costs are recognized. The current interim water marketing policy provides that water rates be established as the lesser of (1) the irrigators' ability to pay or (2) the cost of providing water service.

The ability to pay for irrigation water was greater than the contract rate for all three irrigation districts reviewed. The Bureau, in a 1946 report, established \$4.15 per acre foot as the ability to pay in the Friant Kern and Delta-Mendota Service Areas while the contract rate was set at \$3.50. In a 1962 report, ability to pay was \$28.70 per acre foot in the San Luis Service Area while contracts were set at \$8.00.

There has been no redetermination of the ability to pay for the three districts because their contracts are not subject to adjustment until the mid-1990s. Bureau officials believe all three districts still have a higher ability to pay than the existing contract rates and that, in fact, all CVP districts with the possible exception of some in the Sacramento Valley could pay at least the rate established under the interim CVP water marketing policy.

#### CVP IRRIGATION REPAYMENT RESULTS

Because the Bureau operates the CVP as an integrated project, it pools the water service contract revenues from individual districts to pay for the CVP as a whole. Bureau policy is to apply the revenues toward the payment of O&M expenses first with the remaining amount, if any, available for capital repayment.

From its inception in 1948 through fiscal year 1983, the CVP's 220 water districts have collectively covered all irrigation O&M expenses incurred and made about \$44.2 million available for repayment of over \$860 million in irrigation capital costs funded by the federal government. However, in fiscal years 1982 and 1983 total CVP operating revenues were less than total O&M expenses. The operating deficits for these years were \$1.6 million and \$4.5 million respectively. According to the Chief of the Mid-Pacific Region's Economics Branch, these were the first years such deficits occurred under normal operating conditions. This official also said that such deficits are likely to continue for the foreseeable future since O&M expenses will probably outpace the revenues available under the long-term, fixed-rate contracts. However, this official and others said that they do not expect these deficits to fully erode the \$44.2 million that was available for capital repayment at the end of fiscal year 1983.

#### District's repayment results

Even though the CVP as a whole has covered all O&M expenses, some individual water districts have not contributed their proportionate share. Overall, 38 of the CVP's 220 water districts have

accumulated O&M deficits. For example, the Bureau has calculated that cumulative revenues through fiscal year 1982 for the Arvin-Edison Water District were about \$1.5 million less than cumulative O&M expenses. In fiscal year 1982, the latest year in which data for individual districts were available, Arvin-Edison incurred a \$621,000 O&M deficit.

On the other hand, the Bureau has calculated that cumulative revenues (through fiscal year 1982) for the Panoche and San Luis districts had exceeded cumulative O&M expenses by \$1.8 million and \$1.3 million, respectively. This is true even though expenses for the Delta-Mendota Canal portion of these contracts (water priced at \$3.50 per acre foot) have exceeded revenues the last 6 years for the San Luis District and 5 of the last 6 years for the Panoche District. These deficits were more than offset, however, by revenues realized on the San Luis Unit portion of the same contracts (water priced at \$8.00 per acre foot).

Both the San Luis and Panoche figures and those for Arvin-Edison were taken from the Bureau's preliminary cost allocations prompted by the full cost pricing provisions of the Reclamation Reform Act of 1982 (P.L. 97-293, Oct. 12, 1982). The amounts derived are subject to change based on the final CVP water marketing policy adopted by the Bureau.

#### ADDITIONAL COSTS BORNE BY THE FEDERAL GOVERNMENT

Since the CVP is still considered to be technically "under construction," there has been no formal allocation of CVP construction costs to individual water districts for the purpose of establishing repayment obligation. Likewise, since current contracts do not stipulate what portion of payments should go towards capital repayment information was not available on how much capital should have been repaid to date. The capital repayment and O&M obligations are identified for each CVP district, however, in the rates established under the interim water marketing policy. The difference between the policy rate and the contract rate represents the increased repayment that could be made during the remaining life of the existing contract if the policy rate could be charged.

Using the Arvin-Edison Water District as an example, the projected increases in repayment are calculated as follows.

--Contract terms - Contract expires on February 25, 1995, and provides for 40,000 acre feet of water delivered annually at \$3.50 per acre foot.

- Rate applicable under interim water marketing policy - \$9.48 per acre foot, with \$5.72 designated as the O&M component and \$3.76 as the capital component.
- Increased repayment - The annual increase in O&M repayment would total \$88,800 which was calculated as follows: policy rate O&M component minus the contract rate multiplied by water deliveries or  $\$5.72 (-) \$3.50 (x) 40,000 = \$88,800$ . Similarly, the annual increase in capital repayment is projected to total \$150,400 and is calculated as follows: policy rate capital component minus remaining contract rate, if any, multiplied by water deliveries or  $\$3.76 (-) \$0 (x) 40,000 = \$150,400$ .

Since the projected water deliveries are constant during the remaining contract period, these increases would continue from 1984 through the beginning of 1995 or 11 years. We assumed that capital and O&M rates would stay the same over the contract period even though interim CVP policy calls for rates to be adjusted every 5 years. The following table presents the projected increased repayment for all three water districts.

Projected Increased Repayment  
1984 to Contract Expiration or Renegotiation

<u>District</u>	<u>Capital</u>	<u>O&amp;M</u>	<u>Total</u>
Arvin-Edison	\$ 1,654	\$ 977	\$ 2,631
Panoche	8,109	2,033	10,142
San Luis	<u>18,149</u>	<u>3,437</u>	<u>21,586</u>
Totals <u>a/</u>	<u>\$27,912</u>	<u>\$6,448</u>	<u>\$34,359</u>

a/Totals may not add due to rounding.

By not being able to charge at the water marketing policy rate, the federal government not only does not get the \$34 million in increased repayment but also incurs interest cost. If the federal government could increase its revenues by charging the 1983 water marketing policy rates, it would, in theory, have to borrow less to meet its budget requirements. Since most government funding requirements are met by the Treasury, we used its estimated borrowing cost as a reasonable basis for establishing the "cost" of not being able to charge the higher water rates. As

shown in the following table, over \$105 million in interest cost will be incurred when repayment under the 1983 water marketing policy rates is not realized. All amounts are in constant 1983 dollars.

Projected Interest Cost for Not  
Realizing Increased Repayment  
1984 to Contract Expiration or Renegotiation a/

-----thousands-----

<u>District</u>	<u>Capital</u>	<u>O&amp;M</u>	<u>Total</u> b/
Arvin-Edison	\$ 1,556	\$ 703	\$ 2,259
Panoche	26,143	2,224	28,368
San Luis	<u>68,338</u>	<u>6,078</u>	<u>74,416</u>
Totals b/	<u>\$ 96,037</u>	<u>\$ 9,005</u>	<u>\$105,043</u>

a/ The yield of outstanding marketable treasury securities usually approximates the Treasury's current cost of borrowing. A one year rate of 8.62% was used to calculate O&M costs and 10 year and 20 year rates of 10.46% and 10.78% respectively were used for capital costs depending on the remaining life of the contract. All interest was compounded semiannually.

b/ Totals may not add due to rounding.

BUREAU POLICY ON CVP REPAYMENT  
AND O&M DEFICIT ISSUES

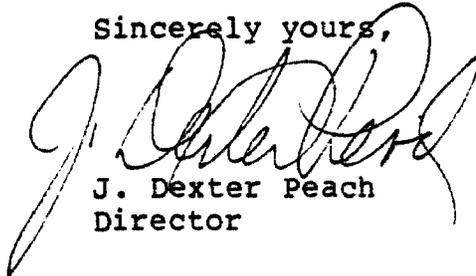
The primary objective of the interim water marketing policy is to recover the capital costs of CVP units within 50 years from the time they become operational. Although the Bureau's objective is desirable, the rates set under the policy cannot be charged to existing water users until their water service contracts expire or can be adjusted. The Bureau recognizes the problems with its existing contractual arrangements and has made changes such as basing charges on more current estimates and including water rate adjustment provisions in contracts. It continues to address these problems, but there is not much that can be done until a majority of these contracts come up for renewal starting around 1995. However, certain provisions of the Reclamation Reform Act of 1982 could change the water marketing policy and pricing before this time.

Under the Reclamation Reform Act, farmers are allowed to increase their acreage allowance if the water user entity amends its water service contract to pay current water rates or if they individually elect to pay current water rates. Those who lease land and do not elect to amend can continue to pay their existing contract rate but will receive water for only 160 acres (320 for a husband and wife). For any additional water, they would have to pay not only current rates but also a charge for interest under pricing provisions of the act which require that the Bureau take into account unrepaid capital costs and O&M deficits incurred, when calculating interest payments. The interim water marketing policy does not address this matter. For new or amended water service contracts, the Secretary is required to annually determine current O&M charges which are to be included in the price of water delivered under the contract. A water marketing policy to conform to the Reclamation Reform Act is now being evaluated within the Bureau. The Mid-Pacific Regional Director expects to solicit public comments on a new water marketing policy during the spring of 1984. When the comment process is completed, the new policy will be forwarded to the Secretary of the Interior for approval.

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As requested, we did not obtain Department of the Interior comments on the information presented in this report. However we did discuss the report's contents with the Bureau's Assistant Chief, Division of Water and Land in Washington, D.C., and the Mid-Pacific Regional Director, and they agreed with the information presented. As arranged with your office, unless you publicly announce its contents earlier, we plan to distribute this report 5 days after its issue date. At that time, copies of this report will be sent to the Director, Office of Management and Budget, the Secretary of the Interior, and other interested parties.

Sincerely yours,

A handwritten signature in dark ink, appearing to read 'J. Dexter Peach', is written over the typed name and title.

J. Dexter Peach  
Director

CONTRACT INFORMATION--ARVIN-EDISON,  
PANOCHÉ, AND SAN LUIS

Arvin-Edison

Contract: 14-06-200-229A - February 27, 1968

Amends: 14-06-200-229A - August 30, 1962

Expires: February 25, 1995

Length: 32 years

Minimum Water: Class I - 40,000 acre feet

Maximum Water: Class I - 40,000 acre feet

Class II - Based on calculation as outlined in  
contract. Amount changes annually.

Rates: Class I - \$3.50/acre foot from Friant Kern Canal

Class II - \$1.50/acre foot from Friant Kern Canal

Adjustment Provisions: None 1/

1983 Water Marketing

Policy Rate for

class I water: \$9.48 (\$3.76 capital and \$5.72 O&M)

Panoche

Contract: 14-06-200-7864A - August 30, 1974

Supercedes: 14-06-200-4553 - August 16, 1955

Expires: December 31, 2008

Length: 34 years

Minimum Water: 80,000 acre feet

Maximum Water: 94,000 acre feet 2/

Rate: \$7.50/acre foot from San Luis Unit  
.50/acre foot drainage charge (effective 1979)  
 \$8.00/acre foot total from San Luis Unit

=====  
 \$3.50/acre foot from Delta-Mendota Canal

Adjustment Provisions: redetermined in 1996 and every 5th year  
 thereafter for Delta Mendota Canal water  
 only 1/

### 1983 Water Marketing

Policy Rate: San Luis Unit - \$13.46 (\$5.17 capital and  
 \$8.29 O&M)

Delta-Mendota Canal - \$10.40 (\$4.04 capital and  
 \$6.36 O&M)

### San Luis

Contract: 14-06-200-7773A - June 18, 1974

Supercedes: 14-06-200-7563 - February 25, 1959

Expires: December 31, 2008

Length: 34 years

Minimum Water: 80,000 acre feet

Maximum Water: 125,080 acre feet 2/

Rate: \$7.50/acre foot from San Luis Unit

\$ .50/acre foot drainage charge (effective 1979)

\$8.00/acre foot total from San Luis Unit

=====  
 \$3.50/acre foot total from Delta Mendota Canal

Adjustment Provisions: redetermined in 1996 and every 5th year  
 thereafter for Delta Mendota Canal water  
 only 1/

1983 Water Marketing

Policy Rate: San Luis Unit - \$16.96 (\$8.02 capital and  
\$8.94 O&M)

Delta Mendota Canal - \$10.40 (\$4.04 capital and  
\$6.36 O&M)

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<sup>1</sup>Bureau policy is that any time a district requests a change in contract terms its contract is subject to adjustment.

<sup>2</sup>The district schedules how much water is wanted from each system, with Bureau approval.