

# EXECUTIVE SUMMARY

The Central Valley Project (CVP) is a multi-purpose water resources project operated by the Bureau of Reclamation (Reclamation) that supplies water to more than 250 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley. It also generates sufficient hydroelectric power to operate the project and to supply power to numerous preference power customers in California. In addition to water supply and power, the project has been authorized by Congress through a series of legislative acts to serve flood control, fish and wildlife, recreation, navigation, and water quality protection needs.

Like many major water resources projects designed and operated to serve multiple purposes, the CVP is comprised of both single-purpose and multi-purpose facilities. In accordance with project authorization, portions of the costs for CVP facilities are to be reimbursed by project water and power users. Cost allocation is a process to distribute the costs of multi-purpose project facilities among the various purposes served in order to identify responsibilities for repayment of reimbursable costs. Reimbursable costs require some level of repayment from project beneficiaries whereas non-reimbursable costs are borne by the Federal government (i.e., Federal taxpayers).

If all of the purposes in a multi-purpose project were non-reimbursable, no cost allocation would be required, at least for repayment purposes, since no reimbursement would be necessary. In a multi-purpose project, such as the CVP, with reimbursable costs for one or more purposes, a cost allocation is necessary to determine the level of reimbursement responsibilities. In a multi-purpose project, the costs of a single-purpose facility can simply be assigned to that purpose for reimbursement. The central challenge of the allocation process is the

equitable allocation of joint costs – the costs of facilities serving more than one project purpose.

In the case of the CVP, an initial cost allocation was completed while the project was in the early stages of construction. Since that time, several updated and revised cost allocations have been developed as more and more actual construction costs have been incurred. The last detailed CVP cost allocation was completed in 1975, and the percentages developed in that study for allocating costs among purposes served are still in use today. The allocations were based on the separable costs-remaining benefits (SCRB) method, which considers benefits accruing to each project purpose and has been accepted for use by Federal water resources agencies. Since 1975, relatively minor updates and adjustments have been made annually to the CVP cost allocation to determine repayment responsibilities of water and power users as new project facilities have been added and water and power uses changed. All cost allocations to date are considered interim because construction of the CVP is not considered complete.

## **Purpose and Need for This Study**

The present study was undertaken to comply with the requirements of Public Law 99-546, dated October 27, 1986, and to respond to a recommendation in the General Accounting Office (GAO) report titled *Central Valley Project Cost Allocation Overdue and New Method Needed*, dated March 1992. The latter called for a more streamlined method to allocate joint costs of the CVP. This report describes the existing allocation of CVP costs and its historical basis, considers alternative methods to allocate costs, and recommends a preferred alternative.

Public outreach in support of this study began shortly after the study was initiated and continued through development and evaluation of alternatives considered in this report. An additional public meeting will be held during the review period of this draft report to support the issuance of the final report.

### **Alternatives Development**

In the course of this study, two alternative cost allocation methods were developed and compared to the Existing Allocation. A Proportional Alternative was developed based on a suggestion from the GAO, and a Contractors' Proposal was developed from a proposal received from CVP water and power contractors.

For the Existing Allocation and the two alternatives, costs were allocated to project purposes and repayment responsibilities were calculated for the reimbursable functions – municipal and industrial (M&I) water users, irrigation water users, and commercial power customers. Evaluation of the alternatives required development of study-specific evaluation criteria because the circumstances involved in this cost allocation study differ from those typically encountered in cost allocation studies, which are conducted during project planning and development. At the start of project planning, no allocation exists, and the problem is that of developing one, including choice of the appropriate allocation method. For this study, an allocation does exist so that the relevant question is whether one or both of the alternative allocation methods have characteristics that provide a compelling reason to change the existing method. The evaluation criteria applied in this study were formulated to address that question, and if the answer were affirmative for both alternatives, to provide guidance in the selection of one of them as the recommended method. The criteria were applied to determine whether the alternatives met the basic requirements for an interim cost allocation and to highlight differences between the existing allocation method and the alternatives.

### **The Proportional Alternative**

The Proportional Alternative would allocate joint costs in proportion to specific costs – the costs of individual physical features that serve only a single project purpose. This approach, which is similar to an accounting method that distributes overhead costs among various units, does not consider the level of benefits generated by joint-use facilities when allocating their costs.

This study found that implementation of the Proportional Alternative would constitute a significant departure from benefits-based allocation methods that have been used by Federal water resources agencies for nearly half a century. In addition, the Proportional Alternative is not well suited to accept future additions of single-purpose project facilities because the costs of these features, which are specific costs, would affect the allocation of joint costs of existing facilities. This would occur even if the new facility resulted in no change in those project benefits that stemmed from the joint facilities.

### **The Contractors' Proposal**

The Contractors' Proposal, as interpreted by Reclamation, is based on the existing cost allocation but contains two significant components that would alter the allocation and repayment of CVP costs. First, the factors used to allocate joint costs are based on results from the 1970 reallocation study rather than results from the 1975 study. Second, the proposal attempts to account for the environmental re-operation of the CVP by creating a new environmental water use for the determination of repayment responsibilities of costs allocated to the water supply purpose.

The use of the 1970 joint cost allocation factors in place of the 1975 factors would significantly affect the allocation of joint costs to the power and flood control purposes. In the 1975 study, the power factor increased to 21.8 percent from 5.9 percent in 1970 while the flood control factor fell to 20.5 percent from 35.5 percent in 1970. The contractors proposed

this change claiming that the cost of the single-purpose power alternative in 1975 study was biased by high energy costs at the time and that flood control benefits were understated because previous Corps of Engineers (COE) flood control benefit estimates were not indexed to then-current levels in the 1975 study. This study reviewed these claims and found that high energy costs were symptomatic of the period and that the COE recommendation (that flood control benefits not be indexed because there were other offsetting characteristics of the method being applied) appears to have been reasonable. Of course, it is not known with certainty if the power and flood control benefits from 1970 are more accurate today or over the years between 1975 and today than the benefits developed for these purposes in 1975. An updated estimate of project benefits for all project purposes would be required to make such a determination. Even after such a determination were made, however, questions regarding the integration of the results with past flood control and power benefits, past allocations, and past repayments would remain.

The Contractors' Proposal maintains that the authorized purposes of the CVP have been greatly expanded and that the project has undergone significant re-operation since completion of the 1975 reallocation study. The accomplishments of the project have been altered dramatically as a result of legislation and policy decisions including the CVPIA, Endangered Species Act, and the 1994 Delta Water Quality Control Plan. According to the proposal, the existing allocation method does not adequately reflect the significant new environmental benefits that have been generated by the re-operation of the project and the associated enhancement and mitigation activities that have occurred. Also, the existing allocation method does not reflect the reduction in benefits accruing to water and power users.

The environmental water use account in the Contractors' Proposal would be based on the 800,000 acre-feet of water dedicated annually by section 3406(b)(2) of the Central Valley Project Improvement Act (CVPIA) for the primary purpose of implementing the fish, wildlife, and restoration purposes of the Act. For purposes of

determining repayment responsibilities for costs allocated to water supply, this authorized use of existing water would be treated as an additional CVP water supply in the proposal. The Contractors' Proposal provides a formula – derived from repayment requirements specified for many of the actions mandated in section 3406(b)(4)-(23) of the CVPIA – that would treat 37.5 percent of the costs associated with the environmental water account as reimbursable by water and power users and the remaining 62.5 percent as non-reimbursable. This cost sharing arrangement would be tantamount to treating 37.5 percent of the environmental water as mitigation water and the remaining 62.5 percent as enhancement water.

This study found the addition of an environmental water use account to be insupportable for a number of reasons. First, unlike other provisions of the CVPIA wherein cost sharing arrangements and surcharges on water and power users have been specified, Congress neither directed that a new cost allocation study be undertaken as a result of likely reductions in water contract deliveries nor provided a cost allocation formula related to the 800,000 acre-feet of dedicated water. Second, section 3406(b)(2) of the CVPIA did not state that any of the dedicated water is for environmental enhancement. Furthermore, section 3406(b)(3) of the CVPIA required implementation of a program to supplement the quantity of water dedicated in section 3406(b)(2). This indicates that the CVPIA did not contemplate that the dedicated water would meet all the environmental goals enumerated in section 3406(b)(2). Mitigation, protection, and restoration must precede enhancement, and it is unlikely that the 800,000 acre-feet alone could completely mitigate, protect, and restore, and therefore that any portion of it could be considered enhancement.

Third, the three water supply functions in the Existing Allocation are all end uses – M&I users, irrigators, and wildlife refuges. The “environment,” on the other hand, as used in the Contractors' Proposal, is not an end use in the same sense that M&I, irrigation, and

wildlife refuges are end uses. Environmental water released from CVP reservoirs for instream environmental benefits could also be used downstream for other beneficial purposes, including irrigation or M&I uses, farther downstream. In such cases, the Contractors' Proposal would double count the use of water.

Fourth, underlying the Contractors' Proposal are the assertions that form the basis for proposing the environment as a water use, namely, that the authorized purposes of the CVP have been greatly expanded and that the CVPIA established the environment as a new project purpose. Fish and wildlife considerations, however, have long been a responsibility of water projects developed by Reclamation and other Federal agencies as a result of the Fish and Wildlife Coordination Act and its various amendments. The original act, passed in 1934, required that projects impounding water consider use of project water for fish culture and migratory bird habitat, and provision of fish passage past dams. The 1946 amendment to the act required that agencies impounding or diverting water consult with the Service with the view to preventing loss of and damage to wildlife resources, and that consistent with the primary project purposes, provide for conservation, maintenance, and management of fish and wildlife and their habitats. In recognizing the importance of fish and wildlife resources and increasing public interest, the 1958 amendment provided that wildlife conservation should receive equal consideration and be coordinated with other project features through effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation.

Authorizations of components of the CVP and reauthorizations of the entire CVP have also addressed consideration of fish and wildlife and their habitats. These include authorization to use CVP water supplies to develop and maintain waterfowl management areas. Authorizations to add the Trinity River Division, the New Melones Project, and the San Felipe Division included provisions to preserve and propagate fish and wildlife resources.

Finally, both Federal legislation, including the CVPIA, and State Water Resources Control Board (SWRCB) decisions require the CVP to meet certain environmental conditions as an operational priority. Decisions of the SWRCB, which are implicitly reinforced by the language of the CVPIA that "Nothing in this title shall affect the State's authority to condition water rights permits for the Central Valley Project," have made it clear that all CVP water rights are junior to inbasin needs, including needs within the Delta itself, and that the CVP can only export water from the Delta that is surplus to inbasin needs. In other words, not only are fish and wildlife purposes not new to the CVP, but, as a matter of State law, CVP water rights have always been junior in priority to such environmental requirements. In short, the introduction into the CVP cost allocation of an environmental water account proposed by the water and power contractors is not consistent with provisions of Federal law, Reclamation guidance on allocating costs, State water rights decisions, and would likely double count water use.

Seen in this context, the CVPIA reinforced the obligation of the CVP to protect the environment by re-emphasizing the priority of meeting environmental needs, but did not add the environment as a new project purpose.

## **Conclusions and Recommendations**

A summary of the changes in total repayment responsibilities from the Existing Allocation that would result from the two alternatives considered in this study is provided in Table ES-1. Changes in M&I costs associated with the water rate components are shown in Table ES-2, and changes in irrigation costs associated with the water rate components are shown in Table ES-3.

This study concludes that neither the Proportional Alternative nor the Contractors' Proposal includes characteristics that provide compelling reasons to change the existing allocation method. Accordingly, the Existing Allocation is recommended as the preferred allocation alternative.

This study makes two additional recommendations. First, joint costs should continue to be allocated using a benefits-based method. Since 1956, the joint costs of the CVP have been allocated using the SCRIB method, which is a benefits-based method. This method has been accepted as the basis for setting water rates for many decades and is the method established for use by Federal water resources agencies. In addition, the procedure for allocating the costs of existing and new project features has been incorporated into the expectations of water users. Second, Reclamation should consider completing a reallocation of CVP costs based on new estimates of project accomplishments – including water supply, flood control, power, and fish and wildlife – benefits, and costs. It is expected that

such a study would be time consuming and potentially costly. Before such a study were undertaken, an evaluation should be completed to identify what existing data are available for use, what new data would be required, the levels of effort needed to develop new data and perform the analyses required for a new cost allocation study, and how present benefits and costs would be integrated with former estimates of benefits and costs and contractor repayment. This evaluation would include coordination with other agencies that would be expected to provide input to a new allocation study – such as the COE and Fish and Wildlife Service – to determine their ability and willingness to participate in it.

**TABLE ES-1**  
**CHANGES IN TOTAL REPAYMENT RESPONSIBILITIES**  
**(\$ MILLION)**

Repayment Entity	Plant-In-Service Total Cost In Existing Allocation	Change in Total Cost As Compared to Existing Allocation	
		Proportional Alternative	Contractors' Proposal
M&I Water Users	436.5	-1.0	-1.9
Irrigation Water Users	1,476.2	27.6	-32.8
Commercial Power Customers	568.8	12.3	-35.8
State of California and Local Governments	244.5	0.6	-0.2
Federal Non- reimbursable	564.1	-39.4	70.7
<b>TOTAL</b>	<b>3,290.2</b>	<b>0.0</b>	<b>0.0</b>
Notes:			
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.			
Totals may not be completely accurate due to rounding.			

**TABLE ES-2**  
**CHANGES IN M&I WATER RATE COMPONENTS**  
**(\$ MILLION)**

Rate Component	Existing Allocation	Change As Compared to Existing Allocation	
		Proportional Alternative	Contractors' Proposal
Storage	75.6	-4.2	-2.3
Conveyance	286.4	0.0	-0.4
Conveyance Pumping	3.1	0.0	-0.1
Direct Pumping	39.2	0.0	0.0
Other	8.3	2.9	2.0
Project Use Power	17.5	0.3	-1.0
San Luis Drain	0	0.0	0.0
<b>Subtotal Used in Setting Rates</b>	<b>430.2</b>	<b>-1.0</b>	<b>-1.9</b>
Repayment Contracts for Distribution Systems	6.4	0.0	0.0
<b>TOTAL</b>	<b>436.5</b>	<b>-1.0</b>	<b>-1.9</b>
Notes:			
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.			
Totals may not be completely accurate due to rounding.			

**TABLE ES-3**  
**CHANGES IN IRRIGATION WATER RATE COMPONENTS**  
**(\$ MILLION)**

Rate Component	Existing Allocation	Change As Compared to Existing Allocation	
		Proportional Alternative	Contractors' Proposal
Storage	341.5	42.3	-14.2
Conveyance	471.3	-25.7	-12.3
Conveyance Pumping	45.6	0.0	-1.7
Direct Pumping	107.0	0.0	0.0
Other	40.4	8.6	4.4
Project Use Power	109.5	2.4	-8.9
San Luis Drain	46.5	0.0	0.0
<b>Subtotal Used in Setting Rates</b>	<b>1,161.8</b>	<b>27.6</b>	<b>-32.8</b>
Repayment Contracts for Distribution Systems	314.4	0.0	0.0
<b>TOTAL</b>	<b>1,476.2</b>	<b>27.6</b>	<b>-32.8</b>
Notes:			
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.			
Totals may not be completely accurate due to rounding.			