PROPOSED INTERIM RATESETTING POLICY

MUNICIPAL AND INDUSTRIAL WATER

CENTRAL VALLEY PROJECT - CALIFORNIA

PUBLIC REVIEW DOCUMENT

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INTRODUCTION

This document provides a brief description of the Central Valley Project (Project) and the details of the proposed new municipal and industrial (M&I) ratesetting policy (hereafter referred to as the Proposed Policy) for the Project.

Throughout this document, a number of key terms are used which have specific meanings in reference to the Proposed Policy. Definitions of these key terms are provided in the **GLOSSARY** section of this document.

Accompanying this Public Review Document is a booklet entitled "1993 M&I Rates for the Central Valley Project." This booklet (hereafter referred to as the 1993 M&I Rate Book) includes the following two sections:

-- The "A" Section includes the 13 major schedules used in developing the 1993 M&I water service rates. These interrelated schedules provide details on the computations of rates for the O&M, capital, deficit, and interest elements of the water rates.

-- The "B" Section includes the primary schedules detailing the fiscal year 1991 M&I accounting of operations by individual M&I contractor.

Public meetings will be conducted in appropriate locations in the Project service area and oral and written comments on the Proposed Policy will be obtained. The Proposed Policy will be revised as appropriate, in response to the comments received. The Proposed Policy will then be submitted to the Department of the Interior (Department) for final approval along with a summary of the comments received, the Bureau of Reclamation's (Reclamation) responses and/or descriptions of the changes made to the Proposed Policy, and appropriate environmental documentation required by the National Environmental Policy Act (NEPA). The approved policy will be implemented as the new Project M&I Ratesetting Policy.

An M&I water ratesetting policy is needed for the Project in order to assure that costs allocated to the M&I water function are repaid by the end of the Project repayment period. The Proposed Policy will meet this repayment requirement. With minor variations, the Proposed Policy has been used on an interim basis in setting the Project's M&I water rates for the past several years.

DESCRIPTION OF THE CENTRAL VALLEY PROJECT

The Project was authorized by the Act of August 26, 1937, and has since been reauthorized several times to include new features and operating measures. The Project was designed for coordinated operation of its surface reservoirs and canals with existing rivers, streams and ground water supplies. Project operations are coordinated to maximize water yield and delivery and efficiency of operations. The Project catches and stores the mountain runoff and, through a complex web of storage and diversion dams, pumping plants, canals and distribution facilities, delivers water throughout its authorized service area.

The Project provides multiple benefits associated with water resources management activities. Although initially developed for irrigation and flood control, the Project now supplies M&I water throughout the Basin, generates hydroelectric power, provides water for fish and wildlife and water quality enhancement, offers recreational opportunities, and provides other benefits and services as well. The Western Area Power Administration of the Department of Energy operates the power transmission features, while the power generation features and all other Project functions are the responsibility of Reclamation.

Passage of the Central Valley Project Improvement Act (CVPIA) in October 1992 increased the emphasis on operating the Project in a more environmentally sensitive manner requiring improved water conservation and expanded use of voluntary water transfers, and use of a balanced approach to meeting the competing demands for Project water by fish and wildlife, agricultural, M&I, and power components of the Project.

The Project's plant in service costs were $3.01 billion as of September 30, 1991, $2.91 billion applicable to Reclamation's facilities and $100 million applicable to Western Area Power Administration power facilities. Reclamation's plant in service costs include $485 million for facilities constructed by the Corps of Engineers which have been integrated into the Project for operational and repayment purposes. The Project's September 30, 1991, plant in service costs by type of facility are summarized in Table 1 below.

Table 1 -- Project Facilities in Service
at September 30, 1991
($ in millions)

Dams and Reservoirs	$927
Power Generation and Transmission	299
Pumping / Generating Plants	73
Pumping Plants	182
Conveyance System	926
Distribution System	321
Drainage System	42
Fish and Wildlife Facilities	17
Recreation Facilities	14
Permanent Operating Facilities	42
Interest During Construction	42
Buildings and Equipment	29
Investigation and Development Costs	63
Other	33
TOTAL	$3,010

Table 2 summarizes the capital investment allocated to the Project M&I water supply function as of September 30, 1991. Estimated fiscal year 1993 O&M costs allocated to the M&I water supply function are also shown in this Table.

Table 2 -- Costs Allocated to the M&I Water Supply Function at September 30, 1991.

Capital Investment:	
In-Basin Facilities	
Storage	$86,328,137
Conveyance	89,116,171
Conveyance Pumping	8,942,628
Direct Pumping	11,789,422
Subtotal (1)	196,176,358
Out-of-Basin Facilities (2)	230,915,495
Deferred Interest Capitalized (3)	26,244,984
Total - As of September 30, 1991	$453,336,837
Estimated M&I O&M Costs, Excluding Interest, for Year Ended September 30, 1993:	
Water Marketing	$610,929
Storage Facilities	1,218,453
Conveyance Facilities	1,141,337
Conveyance Pumping	576,441
Direct Pumping	432,117
Total - Estimated for Fiscal Year 1993	$3,979,277

(1) Project water storage and delivery system facilities located in the Central Valley Basin of California.

(2) Project water delivery system located in the San Felipe Division service area, which is outside the Central Valley Basin.

(3) Interest attributable to 1949 - 1987; capitalized and deferred for repayment during 1988 - 2030; see page 12.

The capital investment cost allocation is updated each year to reflect additions to and retirements from the plant investment account. Annual updates may also reflect changes in forecasts of future Project water and power deliveries.

The repayment requirements for the M&I water supply function are set forth in Federal reclamation law. As shown in Table 3, the unpaid M&I repayment obligation was about $513 million as of September 30, 1991.

Table 3 -- Capital Costs to be Repaid by M&I Water Users as of September 30, 1991

	Total	In-Basin	Out-of-Basin
Capital Investment	$427,091,853	$196,176,358	$230,915,495
Deferred Interest	26,244,984	26,244,984	
Subtotal (Table 2)	453,336,837	222,421,342	230,915,495
Accumulated Deficit	75,428,001	54,748,238	20,679,763
Total Repayment Obligation	528,764,838	277,169,580	251,595,258
Capital Repayment	<15,584,798>	<14,691,086>	<893,712>
Unpaid Balance as of September 30, 1991	$513,180,040	$262,478,494	$250,701,546

Costs allocated to the M&I function are to be fully repaid by the end of the authorized repayment period. The capital costs of the existing in-basin and out-of-basin facilities are to be repaid by the end of their repayment periods of 2030 and 2036, respectively, as explained on page 6. Capital investment costs are repaid with interest. Annual O&M costs, including interest on unpaid capital and deficits, which are not repaid within the year incurred, become deficits and must also be repaid with interest.

The Proposed Policy will repay the unpaid balance amounts shown in Table 3 within the authorized repayment periods. Upon approval, the Proposed Policy will be used to determine the individual contractor's M&I water rates required to repay these unpaid balances. While existing contract provisions will continue to be honored during each contract's term, the M&I water rates will be implemented as soon as possible throughout the Project.

ATTRIBUTES OF THE PROPOSED M&I RATESETTING POLICY

Both the irrigation and M&I functions of the Project are integral water delivery operations governed by common requirements, criteria, and principles. The integrated operations and common characteristics dictate consistency and uniformity in the ratesetting policies for these two functions wherever possible. Accordingly, the basic principles, criteria, and methodologies established by the irrigation ratesetting policy provided the broad framework upon which the Proposed Policy was based.

Two fundamental concepts underlie the Proposed Policy: Individual Contractor Accounting, and Cost of Service water rates.

-- Individual Contractor Accounting refers to the determination of annual water rates, the annual accounting for O&M and interest expenses and the accumulation of deficit and/or surplus balances by individual contractor. Under this concept, each contractor has repayment responsibility for the costs applicable to its M&I water deliveries and, if a deficit occurs, the individual contractor has continuing repayment responsibility for that deficit. This concept was codified by Public law 99-546, which requires annual accountings of net income or deficit for each individual Project water contractor, as follows:

> "The Secretary of the Interior shall include in each new or amended contract for the delivery of water from the Central Valley project provisions ensuring that any annual deficit (outstanding or hereafter arising) incurred by a Central Valley project water contractor in the payment of operation and maintenance cost of the Central Valley project is repaid by such contractor under terms of such new or amended contract . . ." (underlining added)

-- Cost of Service refers to the determination of annual water rates based on the Government's cost of providing M&I water to the individual contractor's designated delivery point. This includes recovery, within the authorized repayment period, of: (1) annual O&M costs, (2) interest costs, (3) M&I investment costs, and (4) any individual contractor deficit balances.

In accordance with the provisions of Public Law 99-546, the repayment period for the main Project water system facilities, referred to as the in-basin facilities, began in 1981 and ends in 2030. The repayment period commenced the year after the last major water storage facility, the New Melones Dam and Reservoir, was placed in service.

A separate repayment period of 1987-2036 has been established for the costs of the San Felipe Division facilities, also referred to as the out-of-basin facilities. The repayment period for the out-of-basin facilities commenced the year after these facilities were substantially completed. For repayment

purposes, the Proposed Policy isolates the costs of the San Felipe Division out-of-basin facilities. The San Felipe Division contractors have sole repayment responsibility for the out-of-basin costs.

Under the Proposed Policy, annual M&I water rates are based on operating cost and capital cost pools, or components, and interest and deficit recovery rates, where applicable. The O&M cost components include the annual labor, supervision, materials, and other types of O&M expenses associated with each of the five operating cost components -- water marketing, storage, conveyance, conveyance pumping, and direct pumping. The capital cost components -- storage, conveyance, conveyance pumping, and direct pumping -- are associated with recovery of the costs of structures and facilities within the applicable in-basin and out-of-basin repayment periods.

A preliminary step in the determination of annual O&M and capital cost component rates is to accumulate the total pooled cost and the acre-feet of water deliveries applicable to each component. Once the costs and acre-feet applicable to each component have been determined, the basic methodology for computing annual water rates is to divide each component's pooled cost by its corresponding acre-feet of water deliveries.

-- For the O&M cost components, the annually determined rates are computed by dividing the pooled annual costs by the corresponding projected annual water deliveries for each component, respectively. Operating cost components are assigned to contractors on the basis of the services used to deliver their water supply. All water deliveries require water marketing services. While most contractors require storage services, several Project contractors operate and maintain the storage and conveyance facilities that provide their water service at their own expense. In those cases, the pooled O&M cost components are excluded from their water rates.

-- The in-basin capital cost components are determined by accumulating all M&I plant costs by component, as of the most recently completed fiscal year, and then dividing each component's costs by its total historical and projected acre-feet for the authorized repayment period of 1981-2030. The resultant component capital rates are then combined as applicable by individual contractor. The combined capital rate is then multiplied by the total quantity of water to be delivered to the contractor during the 1981-2030 repayment period, with the result being the capital cost allocation to the contractor. This allocation, less any repayment realized as of the end of the same fiscal year, is then divided by the present worth of remaining deliveries to be made during the repayment period, with the result being the individual capital rate for the then-current water year. The present worth of remaining deliveries concept is provided in the GLOSSARY on page 36.

-- The out-of-basin capital cost component is determined in the same manner as that described above for the in-basin capital cost components, only using the capital costs, repayment period, water deliveries, and interest rate applicable to the out-of-basin facilities.

-- **The interest recovery rate** is comprised of two elements: interest on unpaid plant investment, and interest on deficit balances, by individual contractor. All interest costs are computed annually on a compound basis. This component is described in detail starting on page 11.

-- **Individual contractor deficit recovery rates** are computed by dividing the contractor's accumulated deficit balance as of the end of the most recently completed fiscal year by the present worth of that contractor's projected deliveries over the remaining repayment period. The present worth of each contractor's projected deliveries is computed using each contractor's composite deficit interest rate.

Deficits or surpluses, as well as the updating of accumulated deficit or surplus balances, are determined each fiscal year. All M&I O&M costs are compiled and grouped into the components indicated above. Costs in each component are allocated to those contractors utilizing that component, based on each contractor's respective share of the total annual water deliveries for that component. Interest charges on O&M deficits and on unpaid capital investment are then added to the O&M costs, resulting in the total costs assigned to the individual contractor for the year. Total costs applicable to each contractor are then compared with the corresponding revenues applicable to each contractor. The result is either a net surplus or deficit for that fiscal year. A hypothetical example of this process is shown below:

Revenues - Contractor A		$500,000
O&M Expenses - Contractor A		
Water Marketing	$28,000	
Storage	43,000	
Conveyance	89,000	
Conveyance Pumping	37,000	
Direct Pumping	16,000	
Total O&M	213,000	
Interest Expenses - Contractor A	120,000	
Total Current Year Expenses		333,000
Net Surplus (Deficit) - Contractor A		$167,000

Contractor revenues are applied first towards current year expenses -- O&M and interest expenses. Revenues in excess of current year expenses are then applied first to repaying allocated capital costs, and second to unpaid prior year O&M costs (i.e., deficits).

The total of the assigned O&M (including interest), capital, and deficit (if applicable) rate components constitutes the contractor's annual water rate. The applicable components and the makeup of each contractors 1993 water rate computed in accordance with the Proposed Policy is shown on Schedules A-2 and A-3 of the 1993 M&I Rate Book.

Description of Water Rate Components

A general description of each of the M&I water rate components, computational mechanics, and other specifics is provided below.

Water Marketing

The water marketing cost component includes the costs incurred for monitoring, administering and negotiating water service contracts, maintaining water delivery and payment records, accounting for the annual financial results for Project water operations, developing annual water rates, and related types of activities.

Dividing the total water marketing costs by the total projected water deliveries for the corresponding water year results in the average cost per acre-foot for this component.

Storage

The storage O&M cost and capital investment components represent the costs of project facilities associated with the collection and storage of Project water. These facilities consist primarily of the Project's dams and reservoirs, such as Shasta, Folsom and New Melones.

All contractors receiving storage services are assigned a Project-wide capital rate, except for the Foresthill Public Utility District (which has a fixed repayment obligation) and the San Felipe Division users whose storage capital rate includes an adjustment for the costs of the San Luis Pumping-Generating Plant. Because the San Luis Pumping-Generating Plant serves as a pumping-only facility for the San Felipe Division, the costs of the San Luis Pumping-Generating Plant are assigned to the San Felipe Division as direct pumping costs, rather than as storage costs.

Storage O&M costs include the project use energy costs associated with pumping water at the San Luis Pumping-Generating Plant, the Columbia-Mowry System, and the Folsom Pumping Plant. Similar to the treatment of storage capital costs, all storage contractors receive the same storage O&M rate, except for the San Felipe Division. The San Felipe rates include an adjustment for the costs of the San Luis Pumping-Generating Plant as described above.

Conveyance

The conveyance O&M and capital cost components include the costs associated with Project facilities designed and used for transporting water throughout the Project. Canals such as the Delta-Mendota, San Luis, and Friant-Kern Canals, are the primary type of facility included in this cost component.

All contractors receiving in-basin conveyance services, including those in the San Felipe Division, are assigned the same conveyance operating and capital rate components. The San Felipe Division contractors have an additional capital rate for the conveyance facilities which are located out-of-basin and used exclusively by the San Felipe contractors. The San Felipe Division contractors perform the O&M on the out-of-basin conveyance facilities.

Conveyance Pumping

The conveyance pumping O&M and capital cost components include the costs of the three main Project pumping facilities used to move M&I water through the Project; the Tracy Pumping Plant, the O'Neill Pumping-Generating Plant, and the Dos Amigos Pumping Plant. Separate O&M and capital rates are computed for each of the three pumping plants and those rates are assigned to contractors whose water is pumped through these pumping plants.

In addition to labor, supervision, and other typical O&M cost elements, conveyance pumping O&M expenses include project use energy costs. Project use energy costs are charged on the energy used to pump water at each of the pumping plants. The amount of energy required to pump an acre-foot of water varies at each of the three facilities because of the different lift requirement at each facility. The greater the lift requirement, the more energy required to pump each acre-foot of water and the more pumping O&M expenses associated with that acre-foot of water.

Total conveyance pumping costs are assigned to pumping plants based on each plant's prorata share of project use energy used. The per acre-foot rates calculated for each of the pumping facilities used by a contractor are totaled to determine each contractor's conveyance pumping O&M rate.

Separate conveyance pumping capital rates are calculated for each of the three pumping plants based on the recorded capital costs as of the end of the most recently completed fiscal year. A rate per acre-foot is calculated for each facility based on its total historic and projected deliveries during the 50-year repayment period. The rates for each of the main pumping facilities used by a contractor are totaled to determine the contractor's capital rate for conveyance pumping.

A portion of the Tracy Pumping Plant's capital costs and O&M expenses are assigned to the Friant-Kern Canal and Madera Canal contractors on the basis of the historical and projected deliveries to the Exchange contractors located in the Delta-Mendota Pool service area.

Direct Pumping

The direct pumping O&M and capital cost components are based on the costs associated with relift pumping plants which pump water exclusively for specific contractors. These facilities were constructed by Reclamation and are now operated and maintained by the local water districts whose water they pump. These facilities and the operating entities follow:

Pumping Plant	Operator
Wintu Pumping Plant	Bella Vista WD
Contra Costa Canal Pumping Plants	Contra Costa WD
Ygnacio Pumping Plant	Contra Costa WD
Clayton Pumping Plant	Contra Costa WD
San Luis Relift Pumping Plants	San Luis WD
Westlands Relift Pumping Plants	Westlands WD
Pleasant Valley Pumping Plant	Westlands WD
Pacheco Pumping Plant	Santa Clara Valley WD
Coyote Pumping Plant	Santa Clara Valley WD

The direct pumping capital costs as of the end of the most recently completed fiscal year are allocated to the contractors using the facilities. A per acre-foot rate is calculated for each plant based on the total of the historical and projected deliveries over the 50-year repayment period.

Because each pumping plant is operated by a local water district at its expense, the only Project O&M costs to be recovered are the project use energy costs. Project use energy costs are charged directly to the user of the direct pumping facility.

Interest

M&I is an interest bearing function, and interest is computed annually on both the individual contractor's unpaid capital cost allocation and their accumulated deficit balances.

Annual interest on general (non-specific) plant investment is calculated using a composite interest rate for the Project. The interest rate applicable to the unpaid plant investment balance during the 1949-1973 period is 2.5 percent. The facilities placed in service after 1973 had higher authorized interest rates. A composite interest rate is developed each year which weighs each of the authorized interest rates by the expenditures to date for the in-service facilities. Since 1973, the composite interest rate for the in-basin facilities has gradually increased to a rate of 2.832 percent in 1991. The composite interest rate is updated annually to reflect any additions to the Project plant in service accounts and their authorized interest rates. Interest on the unpaid balance of the specific costs allocated to individual contractors is calculated using the authorized interest rate for the specific facilities.

Interest on individual contractor deficit balances is based on different interest rate criteria. The deficit balance for an individual contractor refers to the accumulation of annual O&M and maintenance costs, including interest expenses, which exceeded the annual water service payments made by the contractor. As explained below, interest on each contractor's cumulative deficit has been based on separate interest rate criteria applicable to three

periods: 1949-1976, 1977-1985, and 1986-present. The specific rates applicable to each year's deficit are displayed on Exhibit 2 under the "Interest Rate" column. A brief discussion of the interest rates for each of the three periods follows:

-- The Project unpaid plant investment interest rate is applied to all operating deficits incurred during the 1949-1976 period. The rates used during this period were comprised of a specific rate of 2.5 percent for the period 1949-1973, which gradually increased to a composite rate of 2.654 percent in 1976. Use of the unpaid plant investment interest rates is consistent with Reclamation's practices and instructions during that period.

-- In 1977, new instructions were received which prescribed applying annual Project power repayment interest rates to future M&I deficits. Given this second interest rate criteria, a composite deficit interest rate was computed to reflect the weighing of the annual deficits and applicable interest rates.

-- In 1986, the 1977 instructions were superseded by the enactment of Public Law 99-546. Section 106 of that law provides for the application of an annually updated Federal interest rate to all annual deficits incurred by Project water contractors. Annually, each contractor's composite deficit interest rate is updated for new O&M deficits incurred at the applicable Section 106 deficit interest rate. The composite deficit interest rates applicable to each contractor's O&M deficit as of September 30, 1991, are shown on Schedule 12A, page 1 of 3, of the 1993 M&I Rate Book.

Deficits

Annually, deficits or surpluses by individual contractor are determined by comparing each contractor's total allocated costs with their respective revenues. A detailed description of how the deficits or surpluses are determined, as well as an explanation of how deficit recovery rates are calculated, was provided on page 8.

Deferred Interest Method

A potential inequity in the allocation of interest was identified during the early development of the Proposed Policy. This inequity stems from a disproportionate allocation of interest costs. An example of how this disproportionate interest allocation occurs follows.

> -- If, in the first year of M&I water deliveries, only one contractor was taking water from a system ultimately designed for 50 contractors, all the plant costs of the M&I function and the repayment interest for that year would be allocated to the one user. The contractor would not be ultimately responsible for repaying all the capital costs, as the capital costs would be reallocated each year based upon the then-current contractors receiving water services. However, there is no retroactive adjustment of allocated interest expense. Accordingly, the contractor is forever burdened with the repayment obligation for the entire interest amount computed for the initial year. These interest costs together with assigned O&M costs result in increased deficits, as well as increased interest charges on those deficits.

The need for a method to equitably allocate historic interest costs during completion of the many features of the Project led to the development of the Deferred Interest Method. The Deferred Interest Method established the period 1949-1987 as the period during which inequitable plant allocations and interest computations occurred. As such, M&I plant costs, annual plant interest, O&M deficits, and deficit interest applicable to that period were recomputed under the Deferred Interest Method.

As shown on Exhibit 2, interest for the early project years, 1949 through 1987, under the Deferred Interest Method is $26 million less than the amount of interest originally computed and allocated to contractors. The Deferred Interest Method ensures recovery of the $26 million by amortizing these charges as an additional capital cost component to be repaid over the remaining Project repayment period. By doing this, it permits the reallocation of capital costs and the resultant computation of a substantially lower amount of interest as of 1987, while still providing for full recovery of the interest amount. This is accomplished by capitalizing the $26 million of deferred interest at the applicable 7.2063 percent composite interest rate (Exhibit 2), and including a deferred interest component in M&I rates to recover such amount.

Both the Deferred Interest Method and the original interest computation method yield essentially the same financial result to the U.S. Government. The difference between the two methods lies in the procedures for computing interest costs by contractor and in the timing and method for recovering such interest costs. The Deferred Interest Method erases the inequity in computing contractor annual interest for years prior to 1988, resulting in $26 million less interest computed through this period, and provides for recovery of the $26 million, with interest, through the capitalized Deferred Interest Method.

The Deferred Interest Method is the procedure utilized in the Proposed Policy.

Minimum M&I Water Rate

The M&I ratesetting policy will continue to honor the water rate provisions of existing long-term M&I water contracts even though some of these rates are less than the cost of service rates computed under the Proposed Policy. However, the Proposed Policy does not preclude contractors from voluntarily paying the computed O&M or cost of service rates.

Contractors with long-term contracts having water service rates in excess of computed cost of service rates will be required to continue paying these rates until the contract expires or is renewed. Upon renewal, the contract will provide for annual adjustments of the water rate to the higher of the annually computed cost of service rate or the minimum M&I water rate as described below.

The minimum Project M&I water rate shall be the higher of: (1) a rate of $15 per acre-foot, or (2) a rate equal to the O&M costs applicable to delivering Project M&I water to the contractor's designated point of delivery.

An example of the computation of a contractor's minimum water rate follows:

Water Marketing:		
Budgeted O&M Costs - 1993	$610,929	
Projected Water Deliveries - 1993	387,694	
Cost Per Acre-foot		$1.58
Storage O&M:		
Budgeted O&M Costs - 1993	$1,218,453	
Projected Water Deliveries - 1993	369,139	
Cost Per Acre-foot		3.30
Conveyance O&M:		
Budgeted O&M Costs - 1993	$1,141,337	
Projected Water Deliveries - 1993	217,038	
Cost Per Acre-foot		5.26
Total O&M Cost Per Acre-foot		$10.14 **

** As the computed O&M rate is less than the $15 minimum rate, the rate applicable to the contractor in this situation would be the $15 rate.

All water revenues, including minimum M&I water rate amounts, will be accounted for by individual contractor and will be available to meet current and future repayment obligations applicable to the individual contractor.

Once the M&I function of the Project achieves an overall positive repayment status, the use of a minimum rate procedure will be suspended. In place of the minimum rate procedure, the minimum Project M&I rate will become the O&M rate, so long as the Project maintains a positive repayment status.

Once the Project is in a positive repayment status, a mechanism will be established for crediting contractors for payments they have made in excess of their allocated share of capital and operating costs. Such a mechanism may include reductions to water service bills, and other such credits as may be determined appropriate at that time.

Recovery of M&I Investment

The Proposed Policy recognizes the legal requirement of honoring the Project's existing long-term, fixed-rate water service contracts. However, honoring these contracts provides very little opportunity to adjust the M&I rates or increase the amount of M&I revenues. In the absence of authority to unilaterally increase the contract rates, M&I revenues do not begin to increase appreciably until 2005, when the first major group of fixed-rate contracts are subject to renewal. During the 1992 through 2004 period, the inability to generate sufficient revenues to keep pace with steadily rising O&M and interest costs will, in all probability, result in a continuing downward slide in the M&I financial position.

A graph (Figure 1) depicting the estimated revenues and interest expenses flows for the period 1990-2030 is provided on page 20. This Figure does not consider the impacts of potential early contract renewals under the provisions of Public Law 102-575. The Figure represents estimated revenues and interest expenses with contract renewals accomplished in accordance with existing contract provisions.

As shown in Figure 1:

-- Annual revenues rise gradually from $6 million in 1990 to approximately $22 million in 2005. This relatively gradual rise in revenues is attributable to a combination of factors, including a limited number of renewed contracts at cost of service rates, periodic adjustments of rates for contracts with rate adjustment clauses, gradual increases in annual water sales, and annually increasing water rates. While revenues gradually increase between 1990 and 2005, annual O&M deficits continue to increase during this period.

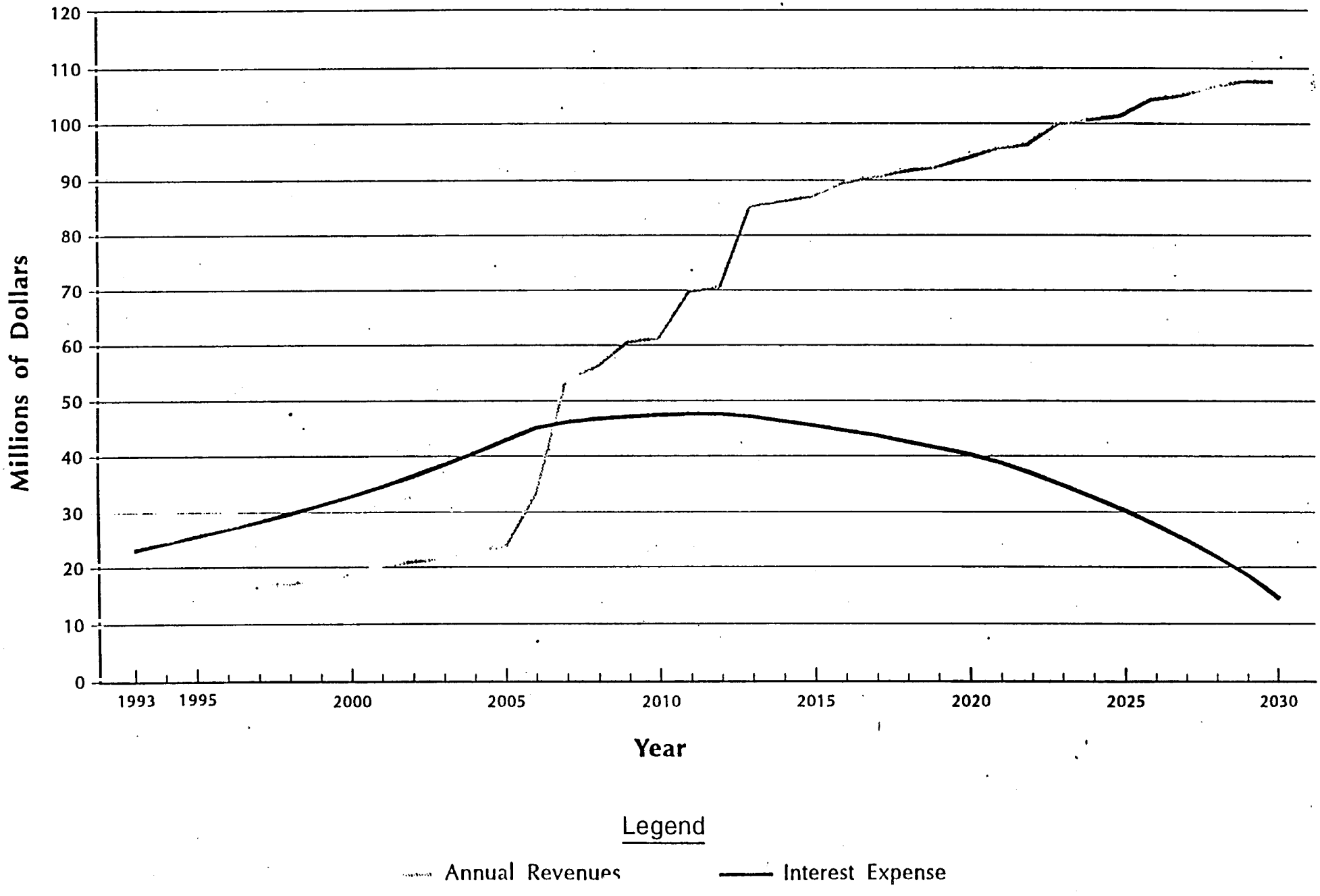
-- Annual revenues during the period 2006-2013 rise dramatically reflecting a major block of contract renewals during this period.

-- Increases in annual revenues after 2013 are due primarily to some increase in water sales and increased O&M costs which are assumed to escalate at an annual rate of five percent in the revenue analysis.

-- As contracts are renewed with cost of service rates, annual deficits quickly disappear and substantial annual surpluses occur. As interest charges decrease on outstanding O&M deficits and unpaid capital balances, greater net revenues become available for repayment. A sharp increase in revenues occurs during 2022 and 2024 due to the renewal of a block of contracts having a significant amount of M&I water deliveries.

Figure 1

Revenues and Interest Expense



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CENTRAL VALLEY PROJECT
PRESENT VALUE OF REVENUE STREAMS THROUGH 2030
UNDER THE PROPOSED POLICY

YEAR	All Contractors Excluding Out-Of-Basin		Out-Of-Basin Contractors Only		All Contractors Including Out-Of-Basin	
	Water Revenue	Present Value @ 7.375%	Water Revenue	Present Value @ 7.375%	Water Revenue	Present Value @ 7.375%
1993	6,528,005	6,079,632	3,935,360	3,665,062	10,463,365	9,744,694
1994	9,421,428	8,171,662	4,025,660	3,491,650	13,447,088	11,663,312
1995	10,283,541	8,306,789	4,115,960	3,324,770	14,399,501	11,631,559
1996	12,104,143	9,105,868	4,206,260	3,164,342	16,310,403	12,270,210
1997	12,434,950	8,712,206	4,296,560	3,010,267	16,731,510	11,722,473
1998	12,817,251	8,363,264	4,429,000	2,889,925	17,246,251	11,253,190
1999	13,638,691	8,288,014	4,519,300	2,746,306	18,157,991	11,034,320
2000	14,083,814	7,970,671	4,609,600	2,608,782	18,693,414	10,579,453
2001	15,740,622	8,296,469	4,699,900	2,477,194	20,440,522	10,773,663
2002	16,239,276	7,971,405	4,790,200	2,351,375	21,029,476	10,322,780
2003	16,823,670	7,691,053	4,902,000	2,240,982	21,725,670	9,932,035
2004	18,165,231	7,733,976	4,970,800	2,116,353	23,136,031	9,850,329
2005	18,824,864	7,464,325	5,039,600	1,998,273	23,864,464	9,462,598
2006	28,403,022	10,488,662	5,108,400	1,886,429	33,511,422	12,375,090
2007	29,076,304	9,999,805	24,889,706	8,559,967	53,966,010	18,559,773
2008	29,825,979	9,553,090	26,447,618	8,471,021	56,273,597	18,024,111
2009	33,726,294	10,060,385	26,894,563	8,022,514	60,620,857	18,082,899
2010	34,094,591	9,471,708	27,341,547	7,595,667	61,436,138	17,067,375
2011	41,978,048	10,860,802	27,788,637	7,189,636	69,766,685	18,050,437
2012	42,405,057	10,217,723	28,235,928	6,803,596	70,640,985	17,021,319
2013	56,262,129	12,625,525	28,991,357	6,505,817	85,253,486	19,131,342
2014	56,877,143	11,886,880	29,326,612	6,129,034	86,203,755	18,015,914
2015	57,481,865	11,188,137	29,665,012	5,773,929	87,146,877	16,962,066
2016	59,515,138	10,788,255	30,007,074	5,439,355	89,522,212	16,227,610
2017	60,196,101	10,162,228	30,353,394	5,124,221	90,549,495	15,286,449
2018	60,873,041	9,570,671	30,704,669	4,827,495	91,577,710	14,398,166
2019	61,463,416	8,999,760	30,840,362	4,515,790	92,303,778	13,515,549
2020	62,095,144	8,467,763	30,986,345	4,225,532	93,081,489	12,693,295
2021	64,417,266	8,181,071	31,143,940	3,955,318	95,561,206	12,136,389
2022	64,982,916	7,686,062	31,328,189	3,705,442	96,311,105	11,391,504
2023	68,531,569	7,549,048	31,513,831	3,471,384	100,045,400	11,020,433
2024	69,026,506	7,081,320	31,689,593	3,250,985	100,716,099	10,332,305
2025	69,509,210	6,641,062	31,885,905	3,046,449	101,395,115	9,687,511
2026	72,263,687	6,430,017	32,106,425	2,856,827	104,370,112	9,286,844
2027	72,760,469	6,029,542	32,355,874	2,681,279	105,116,343	8,710,820
2028	74,034,381	5,713,722	32,637,711	2,518,868	106,672,092	8,232,589
2029	74,648,695	5,365,432	32,930,929	2,366,936	107,579,624	7,732,367
2030	74,671,042	4,998,406	32,960,099	2,206,316	107,631,141	7,204,722
Total	1,596,224,499	324,172,408	786,673,920	157,215,087	2,382,898,419	481,387,495

Source: (1) SC5:PRJNOB.SE2 (All Contractors Excluding Out-of-Basin).
(2) SC5:PRJ-OB.SE2 (Out-of-Basin Contractors Only).
(3) SC5:PRJALL.SE2 (All Contractors).
(4) Central Valley Project Public Law 99-546 repayment interest rate for fiscal year 1993.

Exhibit 1

SCS:C-YRSUMM.145
09/15/93
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CENTRAL VALLEY PROJECT
DETERMINATION OF DEFERRED INTEREST UNDER THE PROPOSED POLICY AND
CALCULATION OF THE DEFERRED INTEREST COMPOSITE RATE

Year	Capital Interest			Deficit Interest			Total Interest			Annual Deficit Interest Rate	Calculation of Deferred Interest and Composite Rate
	Original Method	Deferred Interest Method	Difference	Original Method	Deferred Interest Method	Difference	Original Method	Deferred Interest Method	Difference		
1949	152,108	127,232	-24,876				152,108	127,232	-24,876	.025000	622
1950	630,981	600,174	-30,807	2,004	1,382	-622	632,985	601,556	-31,429	.025000	786
1951	182,446	145,801	-36,645	4,511	3,103	-1,408	186,957	148,904	-38,053	.025000	951
1952	193,717	195,416	1,699	7,356	4,997	-2,359	201,073	200,413	-660	.025000	17
1953	204,960	212,680	7,720	9,482	7,107	-2,375	214,442	219,787	5,345	.025000	-134
1954	175,192	226,225	51,033	12,291	10,054	-2,237	187,483	236,279	48,796	.025000	-1,220
1955	253,179	250,937	-2,242	11,289	11,511	222	264,468	262,448	-2,020	.025000	51
1956	236,997	258,883	21,886	14,789	15,046	257	251,786	273,929	22,143	.025000	-554
1957	434,044	271,131	-162,913	14,729	17,247	2,518	448,773	288,378	-160,395	.025000	4,010
1958	483,366	289,609	-193,757	19,031	19,571	540	502,397	309,180	-193,217	.025000	4,830
1959	484,172	318,553	-165,619	28,573	24,578	-3,995	512,745	343,131	-169,614	.025000	4,240
1960	483,099	342,129	-140,970	33,936	28,252	-5,684	517,035	370,381	-146,654	.025000	3,666
1961	479,373	370,836	-108,537	46,062	36,720	-9,342	525,435	407,556	-117,879	.025000	2,947
1962	517,487	376,638	-140,849	56,014	43,724	-12,290	573,501	420,362	-153,139	.025000	3,828
1963	577,799	365,631	-212,168	66,687	50,573	-16,114	644,486	416,204	-228,282	.025000	5,707
1964	925,151	353,155	-571,996	77,766	56,064	-21,702	1,002,917	409,219	-593,698	.025000	14,842
1965	1,023,125	434,789	-588,336	92,942	56,527	-36,415	1,116,067	491,316	-624,751	.025000	15,619
1966	1,094,554	457,974	-636,580	106,319	54,517	-51,802	1,200,873	512,491	-688,382	.025000	17,210
1967	1,114,455	457,081	-657,374	126,599	59,061	-67,538	1,241,054	516,142	-724,912	.025000	18,123
1968	1,114,741	535,184	-579,557	151,494	66,536	-84,958	1,266,235	601,720	-664,515	.025000	16,613
1969	1,287,124	596,502	-690,622	168,417	71,347	-97,070	1,455,541	667,849	-787,692	.025000	19,692
1970	1,314,233	795,378	-518,855	194,904	81,765	-113,139	1,509,137	877,143	-631,994	.025000	15,800
1971	997,141	847,243	-149,898	222,769	94,553	-128,216	1,219,910	941,796	-278,114	.025000	6,953
1972	1,209,213	939,278	-269,935	240,648	106,481	-134,167	1,449,861	1,045,759	-404,102	.025000	10,103
1973	1,251,237	1,176,569	-74,668	264,217	121,800	-142,417	1,515,454	1,298,369	-217,085	.025000	5,427
1974	1,662,147	1,242,104	-420,043	274,728	128,137	-146,591	1,936,875	1,370,241	-566,634	.027150	15,384
1975	2,239,779	1,367,426	-872,353	300,920	143,388	-157,532	2,540,699	1,510,814	-1,029,885	.026580	27,374
1976	2,832,457	2,383,287	-449,170	426,944	202,526	-224,418	3,259,401	2,585,813	-673,588	.026540	17,877
1977	2,184,138	1,941,922	-242,216	451,903	243,911	-207,992	2,636,041	2,185,833	-450,208	.070000	31,515
1978	2,157,885	1,891,881	-266,004	581,944	341,728	-240,216	2,739,829	2,233,609	-506,220	.070000	35,435
1979	1,904,184	1,947,059	42,875	701,626	435,927	-265,699	2,605,810	2,382,986	-222,824	.075000	16,712
1980	2,086,992	1,973,725	-113,267	823,558	532,985	-290,573	2,910,550	2,506,710	-403,840	.080000	32,307
1981	2,376,838	2,218,777	-158,061	970,327	644,214	-326,113	3,347,165	2,862,991	-484,174	.085000	41,155
1982	2,486,590	2,203,071	-283,519	1,144,573	774,544	-370,029	3,631,163	2,977,615	-653,548	.090000	58,819
1983	4,022,366	2,288,449	-1,733,917	1,457,670	967,501	-490,169	5,480,036	3,255,950	-2,224,086	.095000	211,288
1984	4,032,613	2,442,699	-1,589,914	1,914,398	1,219,079	-695,319	5,947,011	3,661,778	-2,285,233	.107500	245,663
1985	4,684,927	2,466,061	-2,218,866	2,479,696	1,508,021	-971,675	7,164,623	3,974,082	-3,190,541	.113750	362,924
1986	4,646,581	2,442,537	-2,204,044	3,176,777	1,857,429	-1,319,348	7,823,358	4,299,966	-3,523,392	.107500	378,765
1987	4,578,680	2,971,306	-1,607,374	3,787,823	2,169,565	-1,618,258	8,366,503	5,140,871	-3,225,632	.076250	245,954
Total	58,716,072	40,725,333	-17,990,739	20,465,716	12,211,471	-8,254,245	79,181,788	52,936,804	-26,244,984		1,891,301

Source: Capital Interest - Original Method = FN:OCAP-INT.020
- Deferred Interest Method = FN:3CAPINT.038
O&M Interest - Original Method = FN:ODEF-INT.020
- Deferred Interest Method = FN:3DEFINT.038

Deferred Interest Composite Rate = .072063

Exhibit 2

SCS:93M&IREN.253
09/14/93

CENTRAL VALLEY PROJECT
SCHEDULE OF 1993 CONTRACT WATER RATE AND PROJECTED RATE AT
CONTRACT RENEWAL PER ACRE-FOOT
BY CONTRACTOR

Facility/Contractor	Year of Renewal	M&I WATER RATE PER A/F	
		Current 1/	@ Renewal
Black Butte D&R			
County of Colusa 2/	1993	10.80	15.00 3/
Elk Creek CSD	2008	9.00	15.00 3/
Louisiana-Pacific Corp.	2011	9.00	15.00 3/
Clear Creek Unit			
Clear Creek CSD	1995	18.50	21.15
Contra Costa WD			
CCWD - Contra Costa Canal	1993	4.30	4/
CCWD - Contra Loma D&R	1993	7.10	4/
CCWD - New Facilities	1993	7.40	4/
CCWD - General Facilities	2011	10.00	49.33
Cow Creek Unit			
Bella Vista WD	1995	17.50	38.17
Cross Valley Canal			
County of Fresno 5/	1996	27.21	30.80
County of Tulare 5/	1996	32.02	40.44
Delta Mendota Canal			
City of Tracy 5/	2014	26.98	50.98
Orestimba WD	1989 6/	28.01	28.01
Panoche WD - DMC 5/	2009	30.11	54.21
Plain View WD	1993	28.48	28.48
San Luis WD - DMC 5/	2009	11.57	27.04
Sunflower WD	1989 6/	28.01	28.01
Folsom D&R			
City of Roseville	2011	9.00	16.05
City of Sacramento	7/	9.00	45.76
El Dorado ID - FD&R 5/	2006	9.00	15.00 3/
San Juan Suburban WD	1993	9.37	15.00 3/

Exhibit 3
Pg 1 of 4

CENTRAL VALLEY PROJECT
SCHEDULE OF 1993 CONTRACT WATER RATE AND PROJECTED RATE AT CONTRACT RENEWAL PER ACRE-FOOT
BY CONTRACTOR

Facility/Contractor	Year of Renewal	M&I WATER RATE PER A/F Current 1/	@ Renewal
Folsom South Canal			
East Bay MUD	2013	17.36	95.73
Sacramento MUD			
W/ Delta Charge	2013	17.59	95.27
W/O Delta Charge	2013	8.59	73.38
Friant Dam			
County of Madera	1995	10.00	19.21
Fresno County WW#18	1996	20.00	15.00 3/
Friant Kern Canal			
Arvin-Edison WSD	1995	10.00	64.01
City of Fresno	2006	10.00	134.24
City of Lindsay	1985	27.70	27.70
City of Orange Cove	1996	10.00	55.65
Lindsay-Strathmore ID	1990	28.40	28.40
Shafter-Wasco ID	1995	10.00	34.98
Terra Bella ID	1991	28.73	28.73
New Melones Unit			
Stockton-East WD	1983	13.21	15.00 3/
Sacramento River			
City of Redding - SR	1996	9.00	15.00 3/
City of West Sacramento 5/	2020	10.33	18.54
Diamond Lands Corp	2004	9.00	15.00 3/
Lake California P.O.A.	2004	9.00	15.00 3/
Riverview Golf & CC	2004	9.00	15.00 3/
San Felipe Unit			
San Benito County WD	2028	42.86	112.88
Santa Clara Valley WD	2028	37.95	111.30

CENTRAL VALLEY PROJECT
SCHEDULE OF 1993 CONTRACT WATER RATE AND PROJECTED RATE AT
CONTRACT RENEWAL PER ACRE-FOOT
BY CONTRACTOR

Facility/Contractor	Year of Renewal	M&I WATER RATE PER A/F Current 1/	@ Renewal
San Luis Canal - Fresno			
City of Avenal	2009	17.50	147.70
City of Coalinga	2009	18.50	177.12
City of Huron	2009	18.50	147.09
State of CA 5/	2009	28.14	47.76
Westlands WD	1985	39.55	39.55
San Luis Canal - Tracy			
Broadview WD	1992	29.35	29.35
Pacheco WD - SLC	1987	51.45	51.45
Panoche WD - SLC 5/	2009	32.28	54.21
San Luis WD - SLC 5/	2009	61.75	84.43
Shasta D&R			
Shasta CWA	2005	9.00	25.44
Wonderland-Mt Gate CSD	2004	9.00	15.00 3/
Sly Park D&R			
El Dorado ID - SP	1995	17.50	15.00 3/
Spring Creek Conduit			
Shasta Cty #25	2005	9.00	15.04
Shasta CSD	2004	9.00	15.00 3/
Sugar Pine Reservoir			
Foresthill PUD	2022	85.00	85.00 8/

CENTRAL VALLEY PROJECT
SCHEDULE OF 1993 CONTRACT WATER RATE AND PROJECTED RATE AT CONTRACT RENEWAL PER ACRE-FOOT
BY CONTRACTOR

Facility/Contractor	Year of Renewal	M&I WATER RATE PER A/F	
		Current 1/	@ Renewal
Toyon Pipeline			
City of Redding - TP	1990	9.00	15.00 3/
Shasta Dam Area PUD 9/	1993	10.05	15.00 3/
U.S. Forest Service 10/	2008	20.00	18.71
San Felipe Out-Of-Basin Facilities			
San Benito County WD	2008	43.00	243.67
Santa Clara Valley WD	2008	43.00	212.94

1/ May be either contract or cost of service rate.
2/ County of Colusa formerly Stony Ford WD.
3/ Represents the minimum rate since their calculated cost of service rate is less than $15.00.
4/ This represents the districts fixed repayment contract rates and they are expected to be paid off by 2010.
5/ In accordance with their contracts these contractors are currently in the midst of a 5-year rate adjustment.
6/ Based on 40 years after contract was signed per Fresno field office.
7/ This is a perpetual contract having a fixed, non-adjustable rate of $9.00 per A/F. For purposes of this projection, it was assumed that this contract would be renewed in 2023.
8/ Their contract rate has been determinded adequate for repayment of all of the districts obligations under this contract.
9/ Their permanent contract has expired and a new one is being negotiated. They are curently operating under a temporary contract. For purposes of this report, this rate represents what they would be paying under a renewed contract.
10/ Rates adjusted annually in accordance with letter of agreement dated June 1, 1989.

GLOSSARY

Annual O&M. Annual O&M costs, annual interest expense related to the outstanding M&I capital investment and, where applicable, annual interest on the operating cost deficit.

Historical and Projected Water Deliveries. All paid water delivered and expected to be delivered by the plant in service facilities within the Project's repayment period. The time frame extends from the beginning of the first year in which water was delivered through the end of the repayment period.

In-Basin Facilities. The main project water storage and delivery system facilities located in the Central Valley Basin of California.

Isolated Facilities. Project constructed water storage and delivery facilities which are not operationally integrated with the main Project water system. For example, Project water developed by Sugar Pine Dam and Reservoir is all delivered to the local service area; none of that water is exported from the local area for delivery to other Project water users.

Long-Term Contractor. A contractor who is receiving water on a regular basis under a water service or repayment contract having a term of greater than 10 years.

Net Repayment. Accumulation of annual water service payments in excess of the amount required to cover the annual O&M and interest costs. The revenue available to reduce a contractor's deficit and capital investment balances.

Deficit. The accumulation of annual O&M and interest costs in excess of the total revenues received from the sale of water under existing water service contracts. The Project's M&I water supply account has a deficit balance, and the deficit has been increasing every year. The deficit has increased because revenues have not covered all the operating costs.

Out-of-Basin Facilities. The Project water system facilities located outside the Central Valley Basin of California, i.e., those Project facilities located in the San Felipe Division service.

Paid Water. All project water supplies scheduled for delivery to long-term water contractors for revenue producing purposes. Project water delivered for non-revenue producing purposes, such as water rights and mitigation, is excluded from paid water.

Present Worth. A financial term referring to the time value of money. The present worth concept recognizes that the interest earning capability of money makes $1 in the future worth less than $1 today. As an example, if $1 was deposited today at a 10 percent interest rate, it would be worth $1.10 in 1 year. Thus, $1 in 1 year would be worth something less than $1 today.

Present Worth of Future Deliveries. The same concept as indicated in the preceding Present Worth definition, only as applied to a stream of water deliveries rather than monetary payments. Similar to the concept that money earns interest, M&I costs must be repaid with interest; and hence, as $1 is worth more today than in the future, an acre-foot of water today is worth more than an acre-foot sold at the same price in the future. Because of this, the time value of future deliveries must be considered in determining capital and O&M deficit water rates required to repay these costs within the repayment period. The present value of future deliveries is computed by discounting such deliveries by the applicable interest rate over the remaining repayment period.

Projected Water Deliveries. All paid water expected to be delivered during the remainder of the repayment period.

Proposed Policy. For ease of reference, an abbreviated title for the full name of the M&I Component With Individual Contractor Deficit Ratesetting Method. The Proposed Policy is explained in this document.

Repayment Period. The time allowed for the recovery of the capital invested in a project. A 50-year repayment period has been established for the Project. For in-basin Project facilities, the repayment period runs from the beginning of fiscal year 1981 to the end of fiscal year 2030. The repayment period for the San Felipe Division out-of-basin facilities extends from the beginning of fiscal year 1987 to the end of fiscal year 2036.

Water Rate(s) or Rate(s). As discussed throughout this document, general use of these terms refers to the cost of M&I water expressed on a cost per acre-foot basis. When other meanings are intended in the use of the words "rate" or "rates", such as in referring to an interest rate or rates, such clarifying words are provided in the text as appropriate.