Appendix A

Cost Allocation Proposal

Introduction:

In November 1998 the U.S. Bureau of Reclamation (Reclamation) released a three volume set of documents entitled "Documentation of the Revised 1995 Plant-In-Service Interim Cost Allocation for the Central Valley Project" (hereafter referred to as the Baseline Allocation) for public review and comment. The Baseline Allocation was prepared in response to a recommendation by the General Accounting Office (GAO) to simplify the allocation process and to comply with the requirements of Public Law 99-546[1]. During 1999, Reclamation held several public workshops, starting with one on February 4, 1999, to provide the public an opportunity to comment on the Baseline Allcocation, and subsequent updates made by Reclamation.

In addition to the Baseline Allocation, Reclamation prepared a GAO-proposed cost allocation based primarily on the direct cost approach (an accounting method for allocating indirect costs). The latest version of the GAO-proposed method was presented for public review and comment on July 15, 1999. It is our understanding that Reclamation is still refining this method and plans to hold at least one additional public workshop to discuss the results.

A joint CVP cost allocation committee (the Committee) consisting of representatives of the Central Valley Project water and power contractors was formed shortly after the release of the Baseline Allocation. The Committee has submitted comment letters to Reclamation on both the Baseline Allocation (May 19, 1999) and the GAO-proposed method (August 13, 1999). Copies of these letters are included in the appendix for your convenience.

As part of the cost reallocation effort, Reclamation has solicited alternative cost allocation proposals from the CVP stakeholders and general public. This document contains the Committee's proposal for allocating the costs of the Central Valley Project.

Overview:

In developing the cost allocation proposal, the Committee examined various options ranging from proposing changes to the existing Baseline Allocation or GAO-proposed method to proposing that Reclamation perform a new cost allocation study from scratch using the Separable Costs Remaining Benefits (SCRB) or some other suitable economically based cost allocation methodology.

After analyzing the relevant issues surrounding the cost reallocation effort and obtaining policy guidance from water and power contractor management level representatives, the Committee concluded that the cost allocation proposal should build on Reclamation's efforts to revise the Baseline Allocation. In reaching this conclusion, the Committee recognizes the fact that the CVP has not yet been declared complete by the Secretary of the Interior and that any cost allocation study performed in the current period will be considered an interim allocation. Eventually, between now and the end of the project repayment period, a decision will need to be made as to whether a new cost allocation study is warranted in order to finalize the allocation of CVP costs. Until such time, the Committee believes that the Baseline Allocation with the proposed changes presented herein will provide for an equitable and cost effective basis for allocating the costs of the Central Valley Project. Additionally, the Committee believes that the

[1] Title I (Coordinated Operations) of PL 99-546, Section 102(c)(2) authorized and directed the Secretary of the Interior "to undertake a cost allocation study of the Central Valley project, including the provisions of this Act, and to implement such allocations no later than January 1, 1988".

proposed allocation will be easy to maintain and update; thereby satisfying the recommendations made by the GAO in their March 1992 report.

Issues of Concern:

Separable Cost Remaining Benefits Cost Allocation Factors:

The last major cost allocation study for the CVP was completed in 1970. A short-form allocation completed in 1975 primarily updated the prior 1970 data for the multipurpose facilities in "Base 1" including the Shasta, Trinity, Folsom, Friant and Delta facilities. In the 1975 short-form allocation, the type of power plants used as a basis to determine the benefits and single-purpose alternatives for the power project purpose were changed from fossil fuel plants to nuclear plants. This produced a 116% increase in the justifiable expenditure factor for power. In addition, the justifiable expenditure factor for water supply was increased by 83% due primarily to the indexing of costs. Meanwhile, the factor for flood control was left essentially unchanged except for the use of a different discount rate. The end result was a 287% increase in the Base 1 allocation factor to Power and a 3% increase in the Base 1 allocation factor to Water Supply. Conversely, there was a 43% decrease in the Base 1 allocation factor to Flood Control and an 11% decrease to Navigation (refer to Figure 1 below).

Comparison of CVP Allocation Percentages
Base I

	Water Supply	Power	F&WL Enh'mnt	Recreation	Flood Control	Navigation	Total
1969-70 Reallocation	54.18	5.63	1.92	0	36.12	2.15	100.00
1975 Reallocation	55.79	21.81	0	0	20.49	1.91	100.00
Difference	1.61	16.18	-1.92	0	-15.63	-.24	0.00
Percentage Change	+ 3%	+ 287%	- 100%	N/A	- 43%	- 11%	

Figure 1[2]

The separable and joint cost allocation factors developed in the 1975 short-form allocation for Base 1 have effectively been frozen and carried forward for all allocation updates performed since that time, including the Baseline Allocation currently under consideration. Several key issues to consider regarding the 1975 short-form allocation are described in the following sections.

Nuclear Resource as the Single Purpose Power Alternative

Defining and costing the Single Purpose Alternative (SPA) for each function of a project is a critical phase of the allocation process. The SPA serves as a limit on the benefits that can be attributed to a purpose and, as a result, establishes a ceiling on the amount of costs that can be allocated to the purpose.

[2] Compiled from Documentation of the Revised 1995 Plant-in-Service Interim Cost Allocation For the Central Valley Project, Volume 2 of 3, November 1998, Section 2, Attachments to letter to Central Files from Regional Economist dated March 8, 1976

In compiling the 1975 short-form allocation, Reclamation made the crucial decision to change its fundamental assumption with respect to the SPA for the power purpose. Instead of continuing to assume that a fossil fuel plant was the preferred SPA, the decision was made to change to a nuclear plant.

It is helpful at this point to gain a perspective on the world energy conditions leading up to the time of Reclamation's preparation of the 1975 short-form allocation. The decade of the 1970's was a period of significantly escalating energy prices. The Arab Oil Embargo of 1973-74 was a major cause for the disruption in the energy market. However, there were other factors as well. The Energy Information Administration of the Department of Energy describes the period effectively in its publication, The Changing Structure of the Electric Power Industry: An Update[3]. In a section entitled, "Years of Challenge: 1971-1984," it commented as follows:

> *During the 1970s, the electric utility industry moved from decreasing unit costs and rapid growth to increasing unit costs and slower growth. Among the major factors affecting the electric utility industry during the period were general inflation, increases in fossil-fuel prices, environmental concerns, conservation, and problems in the nuclear power industry.*
>
> *First, electric utilities with ambitious capital expansion programs heavily financed by borrowing were particularly affected by inflation. As technical and regulatory requirements increased construction lead times, the impact of inflation was compounded.*
>
> *Second, in the 1970s all fossil-fuel prices rose sharply. Petroleum costs more than doubled in 1974 alone and increased an average of over 26 percent a year for the 1970-1980 period. Natural gas prices, accelerated by decontrol under the Natural Gas Policy Act (NGPA, P.L. 95-621), rose by over 23 percent a year, with the largest increases occurring after 1978. Coal price increases averaged almost 16 percent a year.*
>
> *Third, during the 1970s environmental legislation increased the costs of building and operating electric utility (particularly coal-fired) power plants. The Clean Air Act of 1970 (CAA, P.L. 91-604) and its amendments in 1977 (P.L. 95-95) required utilities to reduce pollutant emissions, particularly SO_2, causing increases in capital, fuel, and operating costs. The Act also limited use of tall stacks to disperse emissions. The Federal Water Pollution Control Act of 1972 ("Clean Water Act," P.L. 92-500) limited utility waste discharges into water. In addition, the Resource Conservation and Recovery Act of 1976 (RCRA, P.L. 94-580) directed standards for disposal of both hazardous and nonhazardous utility wastes.*
>
> *Finally, conservation legislation effectively barred utilities from wider use of natural gas and petroleum. The Energy Supply and Environmental Coordination Act of 1974 (ESECA, P.L. 93-319) allowed the Federal Government to prohibit electric utilities from burning natural gas or petroleum. The 1978 Powerplant and Industrial Fuel Use Act (FUA, P.L. 95-620) succeeded ESECA and extended Federal prohibition powers. The National Energy Conservation Policy Act of 1978 (NECPA, P.L. 95-619) required utilities to provide residential consumers free conservation services to encourage slower growth of electricity demand.*

In addition to the various energy-related issues that were a dominating influence, the period saw the beginning of high inflation rates that are without precedent in this century aside from that experienced in war times. Figure 2 depicts the historic pattern of the Consumer Price Index.

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[3] The Changing Structure of the Electric Power Industry: An Update, Updated May 30, 1997, Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels, http://www.eia.doe.gov/cneaf/electricity/chg_str/contacts.html

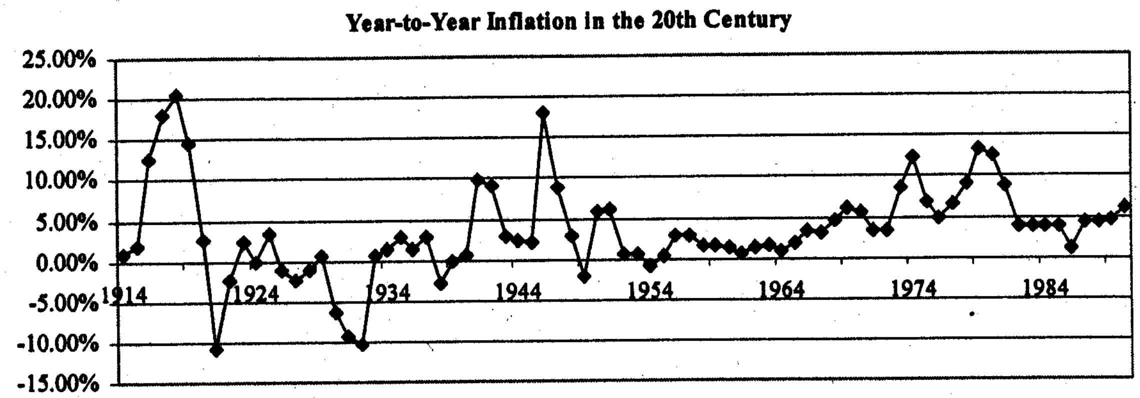

Figure 2[4]

It was against this backdrop that Reclamation had to examine the choice of a SPA for the power function of the CVP. Normally, a change in assumptions as dramatic as that from fossil fuel to nuclear as the basis for determining the SPA for power would not be appropriate for the five-year intervals in which the short-form allocation was performed. However, faced with the wide acceptance of nuclear power in the immediately preceding years, the alarming predictions of continued escalation in the cost of fossil fuels, and the environmental and other concerns that were surfacing, and presented with support from the Federal Power Commission, Reclamation economists were faced with the difficult decision. Understandably, they made the hard choice to revise the allocation, with the effect of increasing the cost of the SPA power cost by 116% over the amount used in 1970.

As it turns out, subsequent events did not play out as expected. The 1975 allocation was published in March 1976 and, within two years, nuclear power had disappeared entirely from the field of viable choices as an energy source in the U.S. Only four construction permits were issued for nuclear plants in 1977, only one was issued in 1978, and not a single one has been issued since then. Figure 3 depicts the dramatic reversal in popularity which the nuclear choice experienced after 1975.

Nuclear Power Plants
Construction Permits Issued by Year

1960	1		1971	3
1961	2		1972	5
1965	1		1973	10
1966	5		1974	12
1967	13		1975	7
1968	21		1976	6
1969	5		1977	4
1970	10		1978	1

No construction permits were issued after 1978

Figure 3[5]

[4] Compiled from U.S. Bureau of Labor Statistics Consumer Price Index data. ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt

[5] From NRC Information Digest (NUREG – 1350 Volume 9) Appendix A: US Commercial Nuclear Power Reactors

The aforementioned publication of the EIA records the events in the following commentary:

> *Expected high electricity demand growth did not materialize in the 1970s. Instead, capacity growth began to outrun increases in demand. For the first time in the history of U.S. electric power, electricity prices rose consistently, with nominal price increases averaging 11 percent a year. Consequently, demand and generation growth moderated to just over 4 percent a year. However, capacity growth continued at a rate of 6 percent a year. Slackened demand growth, coupled with completion of expensive new capacity, left utilities with excess capacity and without new revenues to pay for it. As a result, some electric utilities suffered financial setbacks and incurred declining investor confidence.*
>
> *The commercial nuclear power industry expanded rapidly but also met serious reverses. From 1971 through 1974, 131 new nuclear units were ordered, at an average capacity of about 1,100 megawatts. Inflation and real labor and materials cost increases quickly affected construction costs of nuclear power plants, while high interest rates raised financing costs. Capital costs rose from about $150 per kilowatt in 1971 to over $600 after 1976. Utilities building commercial nuclear facilities faced financial difficulties in justifying and meeting these increased costs. Safety concerns increased. First, in February 1979 the Nuclear Regulatory Commission (NRC) shut down five operating reactors following concerns about durability during earthquakes. Then, on March 28, 1979, the Nation's most significant commercial nuclear accident occurred at the Three Mile Island Number 2 reactor near Harrisburg, Pennsylvania.*
>
> *These events heightened public concerns and spurred opposition to commercial nuclear power.*
> *As a result of higher costs, slackening electricity demand growth, and public concern, demand for nuclear power plants dropped quickly in the mid- and late-1970s. After 1974, new orders plummeted and cancellations accelerated. No new reactor orders were placed after 1978. Moreover, 63 units were canceled between 1975 and 1980.*

In addition to the fundamental assumption about the type of plant for a SPA, Reclamation also made some striking alterations in its assumptions about costs. The 1970 allocation had specified a capacity value, or plant cost, or $11.67 per kilowatt per year. Although the available report of the 1970 allocation does not include details as to the development of this factor, it can be derived that on the basis of a 100-year amortization period and at an interest rate of 3.25% as described in the report, the capital cost of the fossil fuel plant used in the allocation was about $344 per kilowatt of capacity. On the other hand, in the 1975 allocation, the cost of the nuclear SPA was based on a capacity value of $36.00 per kilowatt per year. Using the same assumptions with respect to amortization period and project interest rate, this value suggests a plant capital cost of about $1,062 per kilowatt of capacity. The alarming aspect of this data is that at $1,062 per kilowatt of capital cost, the nuclear plant was far more costly than industry experience up to that point in time would suggest. The data in figure 4 depicts the capital costs incurred for plants placed in service in the 1970's:

Nuclear Power Plants
Capital Cost of Plant

Year	No. of Plants	Cost Range ($/kW) Low	Cost Range ($/kW) High	Average Cost ($/kW)	Average Size (MW)
1971	6	124	330	199	645
1973	20	112	482	260	821
1975	30	109	652	354	852
1977	14	197	720	413	925
1978	7	187	530	395	1030
1979	14	240	577	370	1020
1980	20	296	572	475	983

Figure 4[6]

[6] From Power Generation – Resources, Hazards, Technology, and Costs, Philip G. Hill, © 1977 by The Massachusetts Institute of Technology, reprinted 1980, Table 7.2.

In comparison, fossil fuel plants were also experiencing increases in the capital cost of construction and, as described earlier, even more significant growth in fuel cost. Apparently, the economists were convinced that the cost of fossil fuels would continue to escalate at a pace that would allow the then-sky-rocketing costs of the nuclear alternative to remain competitive.

Again, subsequent events did not occur as originally assumed. As an example, in precisely the same time frame that the 1975 allocation was being completed, Reclamation was participating in the construction of the Navajo power plant in northern Arizona, a coal plant to be used as the source for power for the Central Arizona Project. That 2,250 megawatt plant was completed in 1976 at a capital cost of about $422 per megawatt. Forecasts being used in 1975 for other fossil fuel plants to be constructed in future years are shown in figure 5.

Alternative Power Plant
Capital Cost of Plant (in $/kW)

	Labor	Mat'ls & Equip	IDC	Contin-gencies	Total
800 MW Coal	159	194	85	106	685
800 MW Oil	140	152	71	96	459

Figure 5[7]

Procedures Used for the Allocation Update

In addition to the problems noted above relative to estimating the costs of power plant alternatives, the 1975 short-form allocation also has a significant technical flaw in the allocation principles used in developing the SPA for power. Because the CVP was constructed over such an extended period of time – from the late 1930's through about 1981 – the allocation process requires that all components of a cost allocation be placed on a common time frame. Reclamation chose to do this by indexing forward to 1975 the costs of the water supply components and certain other aspects of the allocation. It is important to note here that flood control was not indexed. With respect to power, the SPA and benefit calculations were made on the basis of entirely new operating criteria, not on the basis of indexing the cost of employing the old criteria. This approach allowed Reclamation to consider not only power generation technologies that were not available in an earlier time (i.e., nuclear), but to also consider environmental, regulatory, sociological, and other factors that influenced the selection and cost of alternatives. This can and did result in an unbalanced analysis, given that the other existing project purposes were evaluated based on criteria and assumptions from an earlier time period. In other words, the playing field was no longer level and the components of the allocation were no longer evaluated on a common time frame.

In the 1975 short form allocation it was only the power project purpose assumptions that, as described above, were subjected to modification in their fundamental assumptions. The water supply factors were changed primarily by the indexing of costs from 1968, which was the basis for the 1970 allocation, to 1975 cost levels. The benefit value for navigation was changed slightly, from $1.26 million per year to $1.5 million, and the discount factor was reduced from 3.25% to 2.75% to cause a total increase of $12

[7] From Power Generation – Resources, Hazards, Technology, and Costs, Philip G. Hill, © 1977 by The Massachusetts Institute of Technology, reprinted 1980, Table 7.3.

million in the capitalized navigation benefit. It is significant to note that no change was made in the value of annual flood control benefits between 1970 and 1975.

The end result, as illustrated in Figure 1 on page 2, was that the justifiable expenditures for water supply and power increased significantly, which caused the Base 1 allocation factors to increase 2 and 16 points, respectively, for water and power. At the same time the Base 1 allocation factor for flood control decreased by nearly 15 points. This action has the effect of shifting approximately 15% of the multi-purpose costs (Base 1 costs) from the non-reimbursable flood control function to the reimbursable power and water supply functions. To impose such an enormous shift in costs from non-reimbursable to reimbursable functions without conducting a new flood control benefit study is unreasonable and produces an inequitable allocation of costs.

Periodic Update of the Allocations

Had Reclamation's practice of performing a major cost allocation study every ten years and a short-form allocation at the five-year mid-point between major studies, been continued there would have been a major study performed in 1980 and again in 1990, with short-form allocations occurring in 1985 and 1995. Had these studies been completed, there would have been ample opportunity to revisit and overcome the inequities resulting from the 1975 short-form allocation. However, these periodic updates have never been performed. Consequently, the 1975 allocation has remained standing as the foundation of all subsequent allocations.

Recommendation

We recognize that the performance of a new cost allocation study is an expensive, time consuming process, and that it appears to not be economically feasible to undertake one at this time. We therefore propose that Reclamation return to the 1970 Separable Costs Remaining Benefits cost allocation factors until such time as a new study becomes warranted. It is important to note here that we were able to re-compute the 1970 joint cost allocation factors using the available data without exception. Additionally, we were able to re-create the 1970 separable cost allocation factors from this same set of data.

The rationale for returning to the 1970 SCRB is as follows:

1. The 1970 SCRB represents the last time a major cost allocation study was performed. Although there is limited documentation on both the 1970 and 1975 SCRB's, we have reviewed the existing summary and detail information for the 1970 SCRB and have concluded that the underlying assumptions are reasonable.

2. Our analysis indicates that the power plant assumptions utilized in the 1970 SCRB are considerably more representative of power industry conditions existing throughout the decade of the 1970's than those used in the 1975 SCRB. Additionally, the 1970 power plant assumptions are more representative of subsequent periods after nuclear power was no longer a viable energy resource alternative and after the period of increasing spiraling energy prices ended.

3. The allocation of multipurpose costs to the flood control project purpose will be properly restored to a reasonable and equitable level. Partial flood control studies of selected components of the CVP since 1975 have given a strong indication that flood control benefits are substantially understated, even in the 1970 time frame.

In developing the 1970 separable and joint cost allocation factors and implementing them in allocating the plant-in-service costs of the Central Valley Project, we deviated from the original 1970 allocation in one important instance with the regard to the allocation of costs for the Friant Dam and Reservoir. In reviewing the documentation for the 1975 short-form allocation, we noted that Reclamation had performed a separate dual purpose SCRB for Friant Dam and Reservoir, which allocated the costs entirely among its two authorized purposes of water supply and flood control. In the original 1970 SCRB, Friant's costs were treated similar to other multipurpose project features resulting in a portion of the costs being allocated to the power project purpose for which there is no authorization. We concur with Reclamation's approach to allocating Friant Dam and Reservoir costs in the 1975 SCRB and have followed that methodology in recreating the 1970 SCRB factors[8].

The impact of utilizing the 1970 SCRB factors (modified as noted above for Friant D&R) to allocate the CVP costs results in a shifting of $45,930,000 from reimbursable project costs to non-reimbursable project costs, primarily back to the Flood Control project purpose (approximately $40 million). In comparison to total in-basin plant-in-service costs of $2.9 billion, this represents a 1.58% cost shift.

Please refer to **Appendix One** of this report for supporting documents, schedules and computations.

Environmental Re-operation of the Project: Since the last CVP cost allocation study (performed in 1975), the authorized purposes of the CVP have been greatly expanded and the project has undergone significant re-operation. The accomplishments of the project have been altered dramatically as a result of various legislative acts and policy decisions including the CVPIA, ESA and Bay/Delta accord. There is also the potential for CALFED to create additional impacts on CVP operations.

The current cost allocation methodology does not adequately reflect the significant new environmental benefits that have been generated by re-operation of the project and the associated enhancement and mitigation activities that have subsequently ensued. Nor does the current allocation reflect the significant diminishment of benefits seen by the water and power functions.

Section 3406(a) of the CVPIA amended the CVP's Authorizing Act of August 26, 1937 to establish the environment as a new project purpose. This new environmental project purpose was established for the purpose of mitigation, protection, restoration and enhancement of the environment. In many instances, the CVPIA specifies the sources of funds and the allocation of expenditures associated with particular tasks to be performed. However, in other instances, the CVPIA is silent. This poses significant problems with regard to reflecting the impacts these activities have on the project when performing the allocation of CVP costs.

The difficulties and ambiguities of the CVPIA are particularly contrasted with regard to CVP water supplies reallocated to the environment under Sections 3406(b)(2) and 3406(d). Section 3406(b)(2) dedicates 800,000 acre-feet of CVP yield toward fish and wildlife activities carried out under the CVPIA. Section 3406(d) is more specific in nature and dedicates additional CVP water toward meeting the water supply needs of wildlife refuges.

Section 3406(d) provides very specific instructions regarding the repayment responsibility for the differing levels of refuge water supply needs. As such, a reasonable basis exists for allocating costs to this activity through the CVP cost allocation process. Under the current cost allocation method, this is accomplished through the water supply suballocation. The suballocation incorporates the historical and projected deliveries to the wildlife refuges and categorizes them as being either Level 1, 2 or 4 deliveries (as determined by the Refuge Water Supply Report released by Reclamation in March 1989). In accordance with the CVPIA, costs allocated through the cost allocation process to Levels 1 and 4 are

[8] This actually increased the allocation of Friant D&R costs to the reimbursable project purposes of irrigation and M&I by $770,000 compared to the existing allocation.

considered environmental enhancement and are non-reimbursable to the contractors. Costs allocated to Level 2 through the cost allocation process are reimbursable by the water and power contractors.

In addition to incorporating Section 3406(d) deliveries to the refuges in the water supply suballocation, Reclamation further reflected the impacts of environmental re-operation on the project by reducing projected deliveries to export contractors by as much as 50% of contract entitlement in the current period. Projected deliveries gradually increase back to 100% of contract entitlement by 2026 under the premise that water reallocated to the environment will be replaced with newly developed supplies and/or conservation efforts.

It is important to note at this point that the CVPIA established the environment as a new project purpose with equal status to the previously existing project purposes. As such, consideration should be given to this new project purpose in developing the separable and joint cost allocation factors under the SCRB process. However, as noted earlier, it is not cost effective to perform a new SCRB at this time. We have concluded that the water supply suballocation provides a reasonable alternative for allocating CVP costs to the environment until such time as a new cost allocation study can be performed.

Recommendation

To further refine the water supply suballocation, we propose that the 800,000 AF of environmental water under Section 3406(b)(2) of the CVPIA is treated in a manner similar to the wildlife refuge water under Section 3406(d). While the inclusion of the b(2) water in the water supply suballocation will still not fully reflect the environmental re-operation of the project, it will result in a step in the right direction.

We are aware of the significant difficulties involved in incorporating the b(2) water in the water supply suballocation. Chief among these difficulties is the absence of guidance in the CVPIA regarding expected annual demands for the 800,000 acre-feet as well as guidance pertaining to the allocation of the associated costs between the reimbursable and non-reimbursable components. Clearly however, in spite of the inherent difficulties, an attempt to allocate CVP costs on some reasonable basis to reflect the impact of implementing Section 3406(b)(2) of the CVPIA must be made. The CVPIA specifies that two of its goals are to protect and enhance the environment. To ignore the role that the b(2) water will play in this process is a significant shortcoming of the current cost allocation.

The key to incorporating the b(2) water into the water supply suballocation lies in developing a water delivery schedule for the environment. While not a perfect solution, we believe that the assumptions presented herein can be used to develop an environmental water delivery schedule for the b(2) water and provide a reasonable and equitable basis for allocating CVP costs.

The following assumptions were used to develop an environmental water delivery schedule:

Assumptions for Environmental Water Delivery Schedule

1. Select a geographically representative sample of irrigation and M&I contractors from Schedule A-12 of the CVP Rate Books that together have contract entitlements adding up to 800,000 acre-feet. Reclamation's October 5, 1999 final decision for accounting for the 800,000 acre-feet could be used as a guide in selecting contractors by geographic region. For example, the Reclamation proposal refers to Upstream Actions (Shasta, Trinity, Folsom, New Melones) and Delta Actions. The report goes on to estimate that between 200,000 and 350,000 acre-feet would be needed for winter/fall upstream actions and the remainder to be available for spring/summer measures, both in the Delta and upstream. Based on this information, we would split the difference and pick contractors from North of the Delta amounting to 400,000 acre-feet and contractors from South of the Delta amounting to 400,000 acre-feet, and further divide the selection process to pick 15% M&I and 85% irrigation to

approximate actual usage between the two user groups. The resulting representative contractor delivery schedules would be combined and serve as an environmental water delivery schedule. Environmental deliveries would begin in 1993 and run through 2030.

2. Total water supply for purposes of the water supply suballocation would equal the sum of the historical and projected deliveries for M&I and irrigation for the period 1949-2030, plus the environmental water delivery schedules for CVPIA Sections 3406(d) [Wildlife Refuges] and 3406(b)(2) [Dedication of 800k AF]. The b(2) environmental deliveries would gradually increase in the same proportion that projected contractor deliveries increase in Schedule A-12 so that by 2026, the contractors would once again have their full entitlement and the environment would have full use of the 800,000 acre-feet. The rationale is a follows:

   - The CVPIA provides that M&I and irrigation will get replacement water for the 800,000 acre-feet allocated to the environment. Reclamation in establishing Schedule A-12 took into consideration the South Delta constraints by reducing projected deliveries to as low as 50% for exporters. These restrictions are gradually lifted under the assumption that makeup water will be found.

   - The CVPIA contains shortage provisions for b(2) water of up to 25% when irrigation deliveries are reduced because of hydrologic circumstances; therefore, it is reasonable to assume a buildup schedule similar to the one created for water contractor deliveries for environmental deliveries.

3. For the period 1993 through 2006, none of the 800,000 acre-feet of b(2) water would be considered as environmental enhancement water. Environmental enhancement would be assumed to begin in 2007. 37.5% of the b (2) deliveries would be classified as environmental mitigation deliveries reimbursable by the federal water and power contractors beginning in 1993. The rationale is as follows:

   - Calfed projects that Phase 1 of the Calfed environmental restoration/mitigation project will take 7 years to complete. During that time, the majority of the projects being conducted will be to restore/mitigate the environment. Assuming that Phase 1 begins in FY 2000, the environment should be significantly mitigated and environmental enhancement should occur by the 2007. Although not CVPIA specific, Calfed's projections provide a good indicator as to when we can expect environmental enhancement under the CVPIA to occur.

   - The CVPIA clearly states that a portion of the b(2) water is for enhancement and Reclamation has reinforced this statement in their Cost Allocation Public Workshops and in their October 5, 1999 final decision for accounting for the 800,000 acre-feet. The problem is that neither the CVPIA nor Reclamation's October 5th final decision provides guidance for determining the reimbursable portion of the activities covered under Section 3406 (b)(2). Although no specific guidance is provided, other sections of the CVPIA routinely established 37.5% as the federal reimbursable cost share percentage. This provides a reasonable indication as to what Congress considered to be environmental mitigation to be repaid by the federal water and power contractors. Therefore, it is reasonable to apply this same percentage to the 800,000 acre-feet of b(2) water.

The resulting water supply suballocation factors developed by applying the above environmental water delivery assumptions would result in a shifting of $18,250,000 from reimbursable costs to non-reimbursable costs. In comparison to total in-basin plant-in-service costs of $2.9 billion, this represents a 0.63% cost shift.

Please refer to <u>**Appendix Two**</u> of this report for supporting documents, schedules, and computations.

Summary of Impacts:

The table below summarizes the impacts on the allocation of CVP In-Basin Plant-In-Service costs for the proposed SCRB and Environmental Re-operation changes noted above. This table does not reflect the impacts of issues discussed in the "Other Cost Allocation/Repayment Issues" section that follows.

In total, $64 million are reallocated from the reimbursable project purposes of M&I, irrigation, and commercial power to the non-reimbursable project purposes of navigation, flood control, and fish and wildlife. The reallocation of $40 million to flood control essentially restores the level of allocated costs to their pre-1975 Short-form Allocation levels, which we believe provides a more fair and equitable representation of the value of flood control to the project. The majority of the increase in allocated costs to fish and wildlife is due to the inclusion of the 800,000 acre-feet of CVPIA Section 3406(b)(2) water in the water supply suballocation. We believe this results in a more fair and equitable representation of the increased value of the project to the fish and wildlife purpose as a result of project re-operation.

Central Valley Project
Joint Water and Power Contractor Cost Allocation Proposal
Summary of Changes in Allocated Plant-In-Service Costs

	In Basin					
	USBR Existing Allocation		Contractor Proposed Allocation		Change in Allocation	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
Plant-In-Service Cost per 9/30/98 Bureau Cost Allocation	2,853,528,211	98.421%	2,853,528,211	98.421%		
Capitalized CVPIA Programmatic Environmental Impact Study Costs	19,539,271	0.674%	19,539,271	0.674%		
Capitalized Deferred Interest	26,244,984	0.905%	26,244,984	0.905%		
Total Plant-In-Service Investment	**2,899,312,466**	**100.000%**	**2,899,312,466**	**100.000%**		
Non-Reimbursable Costs – Federal & State						
Direct Assigned Costs:						
Federal Tax Payer	67,964,007	2.344%	67,964,007	2.344%	0	0.000%
State Share of San Luis Joint Facilities	220,249,492	7.597%	220,249,492	7.597%	0	0.000%
Water Quality Improvement	5,613,449	0.194%	5,613,449	0.194%	0	0.000%
Navigation	5,783,326	0.199%	6,699,448	0.231%	916,122	0.032%
Flood Control	139,304,037	4.805%	179,298,264	6.184%	39,994,227	1.379%
Recreation	73,877,767	2.548%	73,877,767	2.548%	0	0.000%
Fish and Wildlife	159,740,402	5.510%	183,187,858	6.318%	23,447,456	0.809%
Other Allocated Costs	4,531,976	0.156%	4,354,570	0.150%	(177,406)	-0.006%
Subtotal Non-Reimbursable Costs	**677,064,456**	**23.353%**	**741,244,855**	**25.566%**	**64,180,399**	**2.214%**
Authorized Deferred Use:						
Tehama Colusa Canal	54,450,000	1.878%	54,450,000	1.878%	0	0.000%
Folsom South Canal	2,425,000	0.084%	2,425,000	0.084%	0	0.000%
Subtotal Authorized Deferred Use	**56,875,000**	**1.962%**	**56,875,000**	**1.962%**	**0**	**0.000%**
Reimbursable Plant-In-Service Costs (Water and Power)	**2,165,373,010**	**74.686%**	**2,101,192,611**	**72.472%**	**(64,180,399)**	**-2.214%**
M&I	231,502,279	7.985%	229,895,046	7.929%	(1,607,233)	-0.055%
Irrigation	1,385,131,071	47.774%	1,353,111,946	46.670%	(32,019,126)	-1.104%
Commercial Power	548,739,659	18.927%	518,185,622	17.873%	(30,554,037)	-1.054%
	2,165,373,010	**74.686%**	**2,101,192,614**	**72.472%**	**(64,180,396)**	**-2.214%**

Other Cost Allocation/Repayment Issues: The Committee's May 19, 1999 comment letter on the Baseline Allocation contained several other issues that are primarily repayment issues not directly dependent on the nature of the cost allocation methodology. These issues require both financial and policy level analysis in order to reach a satisfactory resolution. We request Reclamation work with the Committee to establish a process for resolving the following outstanding issues.

- Allocation of CVPIA Capital Expenditures – In a memorandum from the Regional Director dated February 11, 1993, Reclamation documented their interpretation of the language "shall be reimbursed as main project features" relative to certain costs incurred as a result of CVPIA activities.

  The memorandum states that:

  > "Our Regional policy is to allocate reimbursable fish and wildlife mitigation[9] construction costs on the basis of the structure (main project feature) that necessitated the mitigative measures to be undertaken. In almost all cases, this procedure will allocate costs to both reimbursable and non-reimbursable functions. To the extent that there are reimbursable costs, they will be repaid, as appropriate, by direct beneficiaries of the Central Valley Project (CVP); i.e., CVP water and power users. The non-reimbursable costs will be "repaid" by the Federal Government."

  In 1995, an audit conducted by the Office of the Inspector General questioned Reclamation's Regional policy regarding the allocation of reimbursable CVPIA costs under Section 3406(b). As a result, Reclamation reevaluated and revised their policy so that these costs are now recovered 100 percent from the Project's water and power users. Because this appears to have been an arbitrary and onerous decision from our perspective, we request that Reclamation reexamine this issue and formally document their final interpretation, with the appropriate supporting documentation.

- Sugar Pine Dam and Reservoir Capital Costs – The Sugar Pine Dam and Reservoir and associated distribution system were authorized in 1965 under P.L. 89-161, which was passed primarily to authorize the Auburn-Folsom South Unit of the American River division of the Central Valley Project.

  The language of P.L. 89-161 specifies that "*the operation of the Auburn-Folsom South Unit, American River division, shall* be integrated and coordinated, from both a financial and operational standpoint, [emphasis added] *with the operations of other features of the Central Valley project...*"

  The 1965 Act's requirement that the facilities be integrated both financially and operationally is a significant point with regard to Sugar Pine Dam and Reservoir. Sugar Pine, who's reservoir capacity was reduced from 16,000 acre-feet to 7,000 acre-feet and annual yield reduced from 4,000 acre-feet to 2,800 acre-feet from that authorized under the 1965 Act, provides no water for the rest of the CVP, and its distribution system serves only one contractor. Although Sugar Pine was not integrated operationally, it was integrated financially into the project.

  The issue of the financial integration of Sugar Pine in the absence of operational integration takes on additional significance when you consider that the facilities, originally estimated to cost $17 million, ultimately cost over $71 million to construct. Of this $71 million, approximately $57 million is allocated to M&I for repayment, comprising approximately 26% of M&I's total plant-in-service

[9] Reclamation has exclusively used the term mitigation in this context. The CVPIA does not exclusively use this term in the context of Section 3406(b). In fact in Section 3406(b)(1), it explicitly states that "the programs and activities authorized by this section shall, when fully implemented, be deemed to meet the mitigation, protection, restoration, and **enhancement** [emphasis added] purposes established by subsection 3406(a) of this title".

repayment responsibility for the In-Basin facilities. Approximately $4.3 million of Sugar Pine costs are allocated to irrigation, with the remainder allocated to non-reimbursable project purposes.

Below are a few key points related to the decision to continue with the financial integration of Sugar Pine with the Central Valley Project:

- On January 6, 1978, Deputy Assistant Secretary of the Interior Dan Beard approved a proposal for an amendatory contract with Foresthill PUD that would allow the construction of Sugar Pine to proceed. In the memo, Beard made some important observations:

  - Beard noted that the reduction in size of Sugar Pine was of such significance that "*The changes raise serious questions in my mind as to whether project features, costs and benefits have changed to such an extent as to require reauthorization by Congress*". We have not found any evidence that the project was reauthorized, or any Solicitor's opinion that it was not required.

  - Beard stipulated that a "*Definite Plan report*" on the project be prepared "*including economic justification and financial analysis*". Beard estimated that the contract with Foresthill PUD would repay only $9.5 million of the then estimated $17 million total construction costs, leaving a significant burden to be repaid by the other CVP contractors (primarily M&I). Beard was clearly concerned about this problem, adding "*I want some assurances that reimbursable costs will be repaid within the time required by reclamation law and <u>that those who will be repaying the excess costs have knowledge of it. A Definite Plan report should be useful in this regard</u>*". *[emphasis added]*

  - In the memo approved by Beard, Reclamation Commissioner Keith Higginson made several points:

    He confirmed that "*Sugar Pine Dam and Reservoir are geographically separated from and independent of Auburn Dam and its water supply*". This is confirmation that the project does not meet the operational integration requirement of P.L. 89-161.

    He acknowledged that the $85 an acre-foot rate to be charged Foresthill PUD was not sufficient to recover the construction costs with interest, but referred to a 1974 policy memo as the vehicle for recovering the costs[10].

- In his response memo on February 28, 1978, Commissioner Higginson advised Secretary Beard that "*it has been determined that reauthorization in not necessary*". Further, Higginson added that "*we feel that the preparation of a definite plan report would not serve any useful purpose*". He also asserted that "*Financial feasibility is also assured because the Central Valley Project (CVP) is considered to be a single project of repayment purposes; that is, separate project parts such as FDU are not repaid separately but are combined with all other CVP units and all assist in repayment of all costs in a manner similar to private utility operations*".

It is important to note that the February 28th memo from Commissioner Higginson makes no reference to Secretary Beard's direction that the other CVP contractors be made aware of the additional repayment responsibility. We are not aware of any formal notification to that affect.

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[10] In 1974, Reclamation issued a memo establishing a standard M&I rate for CVP customers, such rate to be maintained at a level sufficient to pay off all M&I storage and conveyance costs within 50 years. Foresthill PUD's new contract was negotiated under that policy, at a rate of $85 an acre-foot.

Given the significance of the repayment responsibility to the CVP contractors (particularly M&I) and the lack of operational integration as originally intended by the authorizing act, we question whether it is reasonable and equitable to financially integrate the cost of Sugar Pine Dam and Reservoir into the Central Valley Project. We request Reclamation analyze whether it was reasonable and proper to financially integrate the Sugar Pine Dam and Reservoir facilities into the CVP in the absence of the operational integration specified by the Authorizing Act, and formally document their decision. Please see **Appendix Three** of this report for supporting documents.

- **Out of Basin Environmental and Recreational Enhancement** – The feasibility report for the San Felipe Division (reported in House Document No. 500) makes reference to environmental and recreational enhancements created as a result of Santa Clara Valley Water District's re-operation of its non-project reservoirs in conjunction with receiving San Felipe water supplies. The ratio of non-reimbursable to reimbursable costs estimated in the feasibility report was approximately ten percent non-reimbursable and ninety percent reimbursable. In an August 30, 1994 memo, the Bureau agreed to maintain that ratio in allocating San Felipe Division (Out-of-Basin) costs.

  At issue is whether similar environmental and recreational enhancements were created in the In-Basin facilities through which San Felipe Division water must pass in order to reach its destination. To the extent enhancement costs can be identified, they become a non-reimbursable contractor expense. It is our understanding that Reclamation has agreed to deal with this issue as part of the current CVP cost reallocation study.

- **CVPIA and CALFED Capital Expenditures** – By law, existing CVP facilities must be repaid by 2030. However, a question arises regarding CVPIA capital expenditures already incurred or to be incurred in the future. By requiring significant CVPIA capital expenditures to be repaid by 2030 (particularly those incurred toward the end of the Project repayment period), Reclamation could create undue financial hardship on the part of the contractors.

  In order to avoid the potential for financial hardship, we request Reclamation analyze the potential for establishing separate repayment periods for reimbursable CVPIA capital expenditures (and CALFED capital expenditures should any accrue to the CVP contractors). The decision to establish a separate repayment period should be based on the timing and magnitude of the expenditure. The degree to which Restoration Fund credits offset the expenditure should also be considered. We would be happy to assist Reclamation in this endeavor.